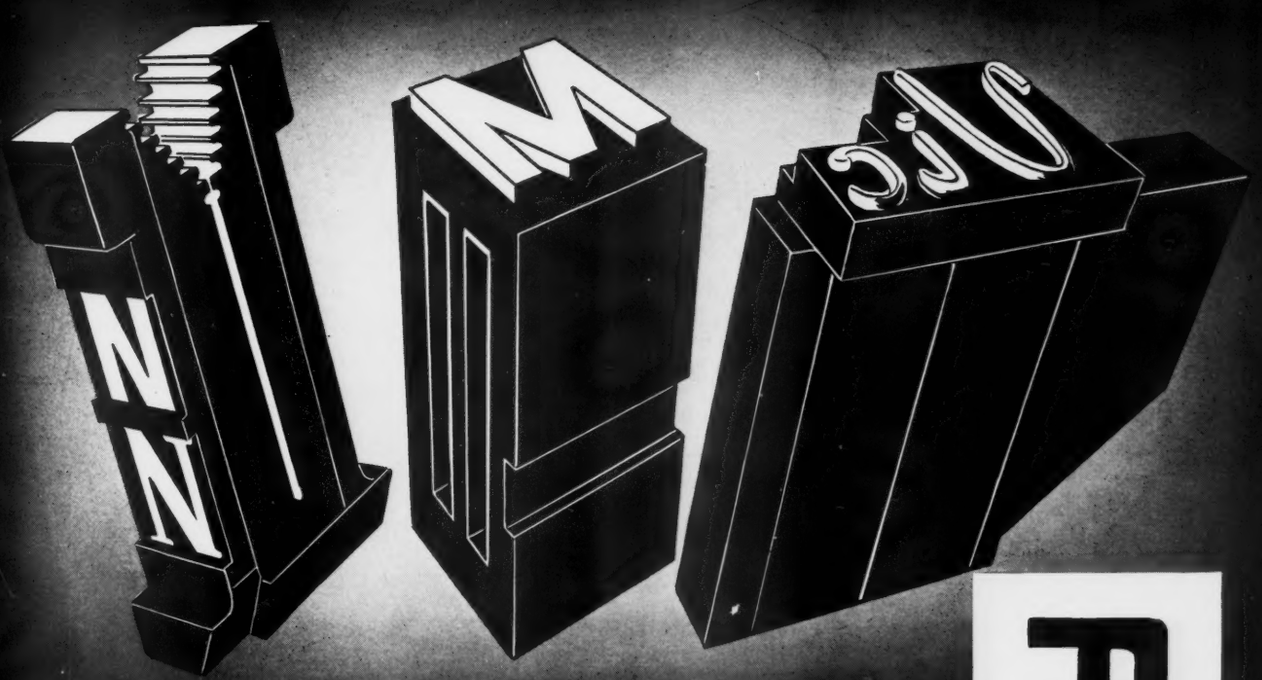
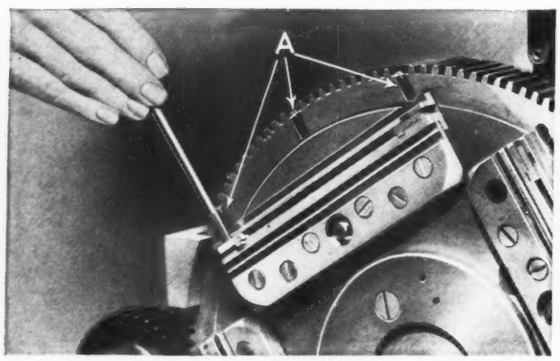
PRINTING EQUIPMENT ENGINEER



A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

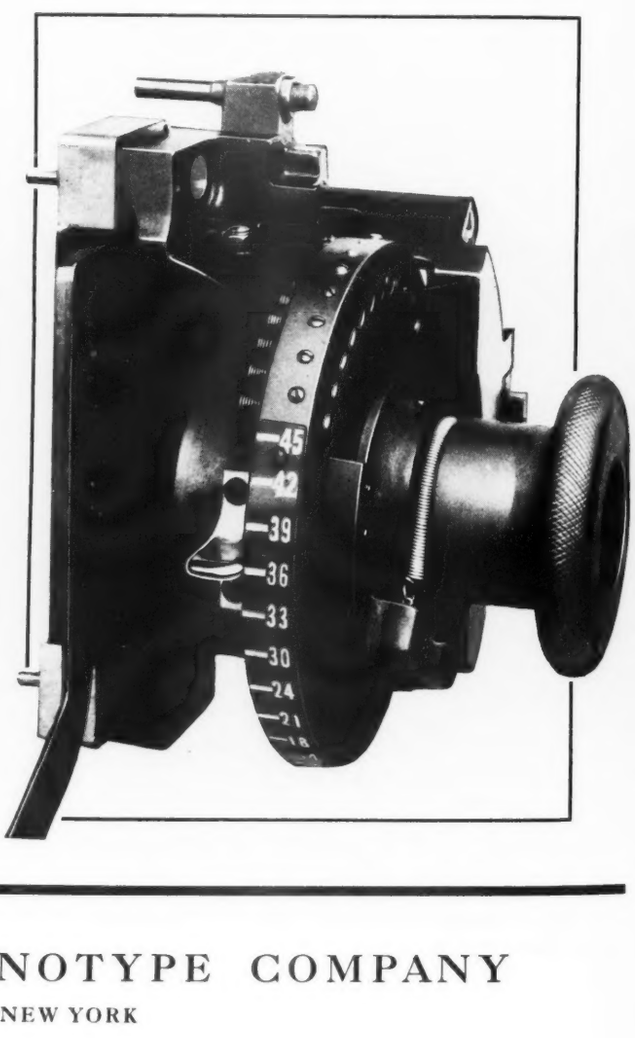
LINOTYPE SLUGS ARE ACCURATE BECAUSE—



FIRST—They are cast accurately in Linotype Molds. The design of these molds and the special steel of which they are made result from 52 years of constant research by Mergenthaler engineers. Especially important is this three-screw construction which gives a vital support to the middle of the mold cap and guards against springing.

SECOND—They are trimmed accurately with Linotype's exclusive wear-proof Knife Block. A separate cam absorbs wear as settings are made. Then, individually adjusted screws hold the knife to micrometer accuracy while slugs are trimmed. This makes it possible to have fractional point setting of any size without affecting other sizes. Thus, an operator can turn instantly from an 8¾ point trim to a 12 point trim without making a supplementary adjustment of any kind.

A three-bearing construction gives rigid support to the right-hand knife and assures exactly parallel movement throughout the entire range.



TRADE LINOTYPE MARK

MERGENTHALER LINOTYPE COMPANY

BROOKLYN, NEW YORK

Set in Linotype Caslon Family

GIVE YOUR DRY-MATS A CHANCE

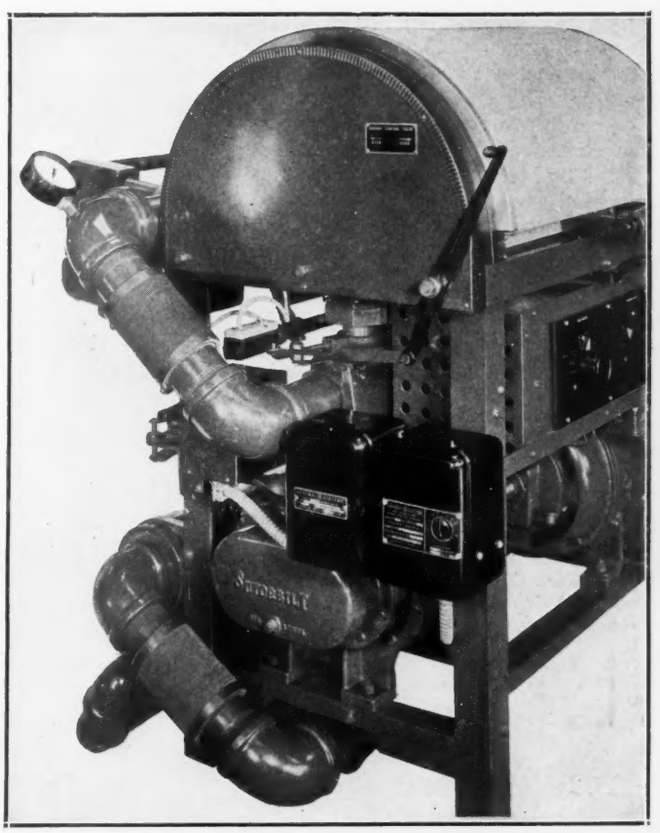
The AUTOFORMER always gives the dry-mat ***a chance*** to adjust itself to Uniform Casting Levels, either in minimum or maximum shrinkage.

To encourage ***maximum shrinkage*** Stahi now brings to you The NEW AUTOMATIC VACUUM SHRINKAGE ATTACHMENT, which subjects a dry-mat to a short initial ***shrinkage period,*** prior to Vacuum Forming and final electric baking. ***No extra operations,*** all done in one automatic machine—The AUTOFORMER.

The NEW AUTOMATIC VACUUM SHRINKAGE ATTACHMENT is entirely automatic in its action. It may be adjusted in seconds ***for shrinking*** the particular dry-mat you are using. ***No guess work*** or clock watching. Each dry-mat gets exactly the same automatic time period.

When the ***shrinkage time period*** is completed, The NEW AUTOMATIC VACUUM SHRINKAGE ATTACHMENT functions to apply the Vacuum Forming and final electric baking of the dry-mat. The next interval of time is taken care of by the ***Master Electric Timer*** until the dry-mat is ready for casting—and with Uniform Casting Levels.

Autoformers can now be equipped with the NEW AUTOMATIC VACUUM SHRINKAGE ATTACHMENT IN YOUR OWN PLANT!



AUTOFORMER with The NEW AUTOMATIC VACUUM SHRINKAGE ATTACHMENT

The NEW AUTOMATIC VACUUM SHRINKAGE ATTACHMENT, can be installed on any existing Stahi AUTOFORMER. Shipped with complete instructions for attaching *by your own machinist and electrician,* or attached to a New Autoformer in our factory at the regular additional price.

STA-HI CORPORATION

1020 CROCKER STREET
LOS ANGELES, CALIF.

417 OREGONIAN BLDG.
PORTLAND, OREGON

Markup

System utilizing number symbol to indicate both point size and name of type face developed by Ray Schoedler

By L. H. HOUCK

THE growing complexity of modern advertising composition, together with more exacting demands on mark-up men that layouts be followed, serves to make a simple one-number markup system of more than passing importance to composing rooms. Ray Schoedler, progressive composing room foreman of the Tampa (Fla.) *Daily Times*, has used such a system for the past fifteen years in his composing room. Its refreshing simplicity and efficiency in practice is the result of study and work by Mr. Schoedler to perfect the system.

Years of actual use by markup men and Ludlow operators have served as a refining influence until at the present time this system is not only efficient but well liked throughout the composing room because of its quality of being easy to mark and interpret.

The basis of the system is the use of but one number, of a single digit or more to indicate both type face and point size. The number may start with one digit and go as long as type faces or numbers last. For instance, with the system used on the Tampa *Times*, the symbol "35" marked on advertising copy indicates *two things* at once.

It represents Tempo Light face and 30 point size.

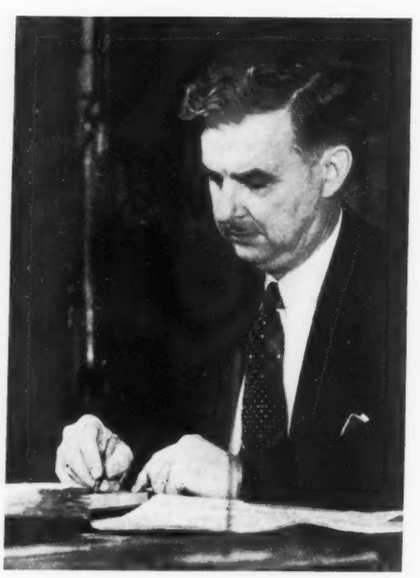
There are many advantages besides the requirement of but small space for marking. The system is elastic and is easily adapted to all composing rooms and grows with the type faces. Most markup men have experienced the confusion of out-of-control symbolic systems which have become top-heavy with the addition of new type families.

"It has speed, too," says Mr. Schoedler.

"With advertisers becoming more exacting in their demands, a fast markup system, giving the markup man positive control of the final appearance of all advertisements, is a distinct advantage," he continued. "It is fast, uses little space and gives absolute control by making it easy for the markup man to mark every line. At the *Times*, we mark everything, including the ornaments, by number. We eliminate many storeproof alterations by complete markup, promoting satisfaction among advertisers."

Past experience with markup systems that grew more and more unmanageable each time new faces were

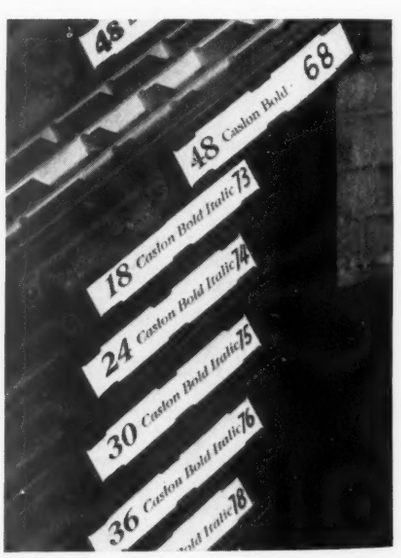
(*Continued on Page 24*)



Ray Schoedler, Composing Room Superintendent, Tampa (Fla.) Daily Times, *has developed and refined a newspaper advertising copy markup system.*

This miniature reproduction represents an advertisement appearing in the Tampa (Fla.) Daily Times. *It is reproduced here to show how the Schoedler markup system is used to indicate type sizes and line lengths for the ad alley compositor. The upper figure in the markup man's instructions (above the line) represents the measure in which the line is to be set. The lower figure (beneath the line) represents the name of the type face and the point size. At the upper left the number "15" indicates 15 pica measure. The number 72 below the line indicates that the line is to be set in 14 pt. Caslon Italic. In all cases, the digit "2" represents 14 pt. The figure "7" by itself indicates Caslon Italic.*

FOOTBALL
TWO BIG GAMES
Friday Night . . . Saturday Night
15/72
We're Ready to Play Ball!
BOYS'
Sanforized
15/14
LONG PANTS
Sizes 11 to 19
$1.98
slug 9-4
The latest off the reel. New patterns in Brown, Blue and Grey. Careful tailoring! Long wearing materials that wash and wash.
O. Falk's—First Floor
24/14
slug 8
Boys' Fastcolor Shirts
In giddy new fancies that you can send to the laundry without a pang, knowing they'll come back as good as new! Sizes 8 to 14½.
59c
Do Your Cheering In A
6/72
PLAID JACKET
10/14
Of Soft Wool and Rayon
$5.95
10/8-4
Not only in gay plaids but in stripes, and tweeds, too! Superbly tailored by a maker of fashionable coats, they're alive with an air of youth. Smartly lined with rayon-twill. Sizes 12 to 18.
O. Falk's—Second Floor
18/No. 12
Jitterbugs
10/14
With 12 Press-on "Jitters"
10/72
$1.00
10/8-4
Go to the game in your own jitter-jacket. Of soft rayon suede in schamois or champagne. The gay felt "jitters" press on with a hot iron.
Extra Set of "Jitters" 25c
O. Falk's—Third Floor



View of section of matrix cases in composing room of Tampa (Fla.) Daily Times. *The labels on the cases are marked just as are similar cases in many composing rooms. The number symbols at the right, however, to a compositor familiar with the Schoedler markup system, indicate the name and point size of the face. These symbols at the right side of the labels are used for markup of copy in the* Times *composing room.*

Presenting Ludlow's new

RADIANT BOLD EXTRA CONDENSED

In the heading and signature of this advertisement appears a first showing of Radiant Bold Extra Condensed, a new tall and slender Ludlow typeface. And the text of the present copy is set in the first completed size of Radiant Medium. . . Both typefaces are sparkling and brilliant, as their names imply. They are modern in every stroke and curve, and well suited to stylized composition. . . The Radiants combine the legibility gained by contrast in color between elements with the simplicity resulting from absence of serifs. Check the legibility of this paragraph against that of any other modern typeface in the ten point size. . . Radiant Bold Extra Condensed is being made in sizes from 14 to 72 point; Radiant Medium in sizes from 6 to 72 point. . . Specimen showings will be gladly sent upon request.

Ludlow Typograph Company

2032 Clybourn Avenue, Chicago, Illinois

THEY said WE were Right!

★ Some of the thousands of entries sent in during ATF's Ideal Press Contest September 15th to October 24th. We would like to express our appreciation again to those who cooperated so whole-heartedly. They make it possible for us to continue to design press equipment that meets the needs of the men in the shop

Thousands of pressmen told us what they wanted in letterpress equipment. We have checked their ideas★ against the features of a new press we are building, and found we were right. ATF's new press has all the features, and more, that were demanded by pressmen to put a job on, get it rolling and maintain high quality without excessive adjustments. Plant owners will recognize the importance of this, and we invite them with their superintendents, foremen and pressmen to inspect ATF's new press in the near future. Announcement will be made by your local ATF Branch . . . watch for it!

American Type Founders

ELIZABETH, N. J. • *Branches in Principal Cities*

WAIT for the press that the pressmen Okayed

WHAT MAKES YOUR SUIT FIT

. . . the MATERIAL or the TAILOR'S SKILL??

Maybe the material in your suit cost a lot of money . . . or maybe it was picked up as a bargain at a Fire Sale . . . Maybe it's brown or grey . . . or even green, with yellow stripes!

BUT . . . whatever it is, it DIDN'T FIT ITSELF into a suit that YOU could wear! It was the TAILOR'S SKILL which cut and sewed and fitted the material until it was SUITED TO YOUR NEEDS.

In 1920, there were *fifteen* rubber manufacturers making rubber rollers for printing. In 1938, only *four* are still in the field BECAUSE, although they knew how to make the MATERIAL, they DIDN'T KNOW HOW TO MAKE IT FIT the needs of printers!

INSTEAD, it was the EXPERIENCED COMPOSITION ROLLER MAKER, the "TAILOR," whose skill and knowledge of printers' problems produced a rubber roller which FITTED THE CUSTOMER'S NEEDS.

Whether it is in clothes or printers' rollers, SKILL AND EXPERIENCE are required to make a SATISFACTORY PRODUCT out of RAW MATERIAL.

BINGHAM, *always* the leader in the field of the composition roller, *continues* that tradition with rubber, producing a superior roller at a price which commands respect.

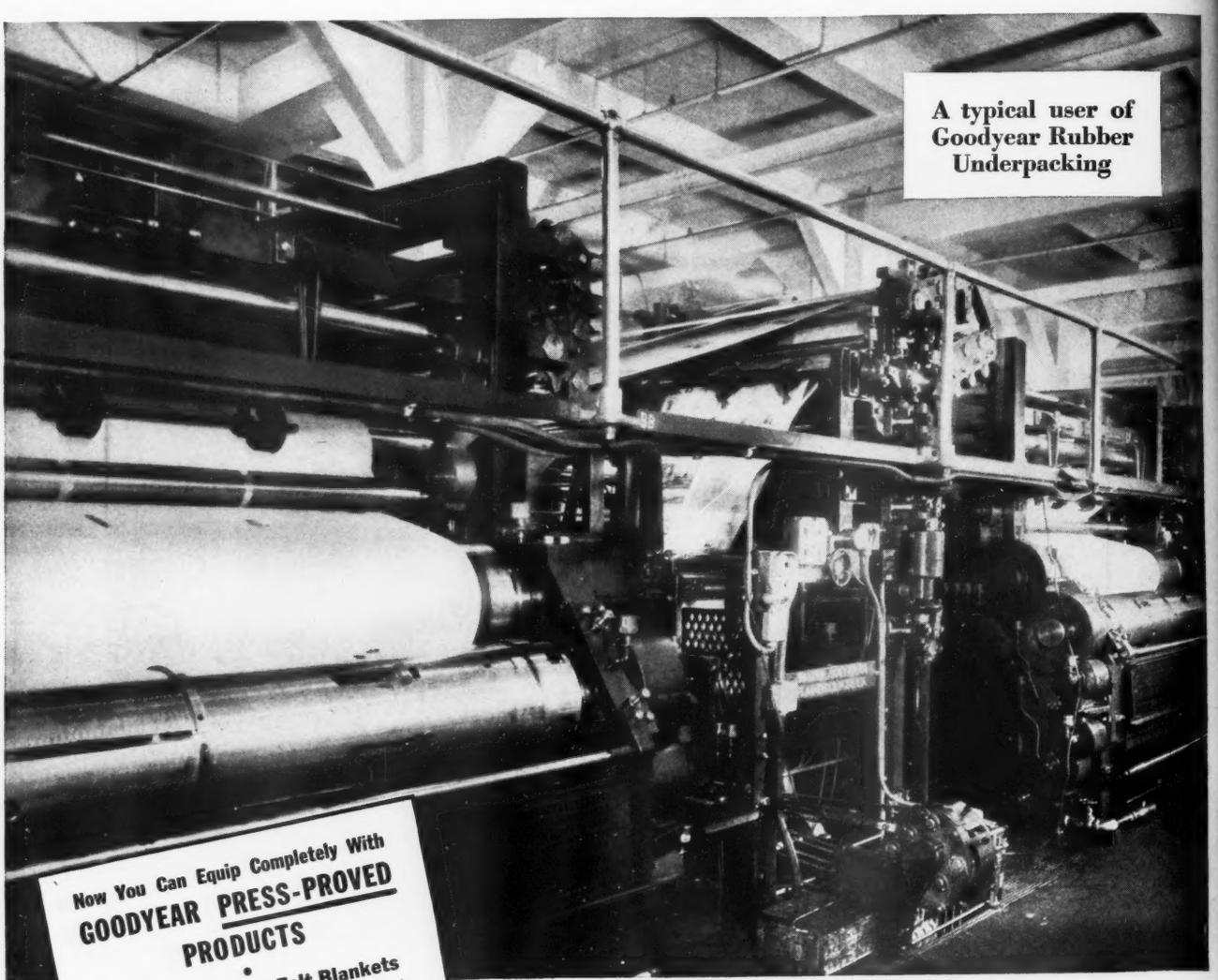
AND the accessibility of the sixteen BINGHAM factories means economy and convenience to the printer.

SAM'L BINGHAM'S SON MFG. CO.

CHICAGO

ATLANTA	CLEVELAND	NASHVILLE	DES MOINES	DETROIT
DALLAS	HOUSTON	INDIANAPOLIS	KALAMAZOO	KANSAS CITY
ST. LOUIS	MINNEAPOLIS	PITTSBURGH	SPRINGFIELD, O.	OKLAHOMA CITY

What underpacking is best? America's publishers say "Goodyear"—and back their words by printing more newspapers on Goodyear Rubber Underpacking than on any other kind! Why don't you equip a press and see how much these press-proved blankets *improve* your print and reduce your costs?



A typical user of Goodyear Rubber Underpacking

Now You Can Equip Completely With
GOODYEAR PRESS-PROVED PRODUCTS

- Goodyear Red Top Felt Blankets
- Goodyear Rubber Underpacking
- Goodyear Rubber Ink Rollers
- Goodyear Press-Cutting Rubbers
- Goodyear Draw Sheets
- Goodyear Wingfoot Air Hose

Made by the makers of Goodyear Tires

● For full data write Goodyear, Akron, Ohio, or Los Angeles, California

THE GREATEST NAME IN RUBBER

GOODYEAR

MORE NEWSPAPERS ARE PRINTED ON GOODYEAR RUBBER UNDERPACKING THAN ON ANY OTHER KIND

PRINTING Equipment ENGINEER

CCA
Member of Controlled Circulation Audit

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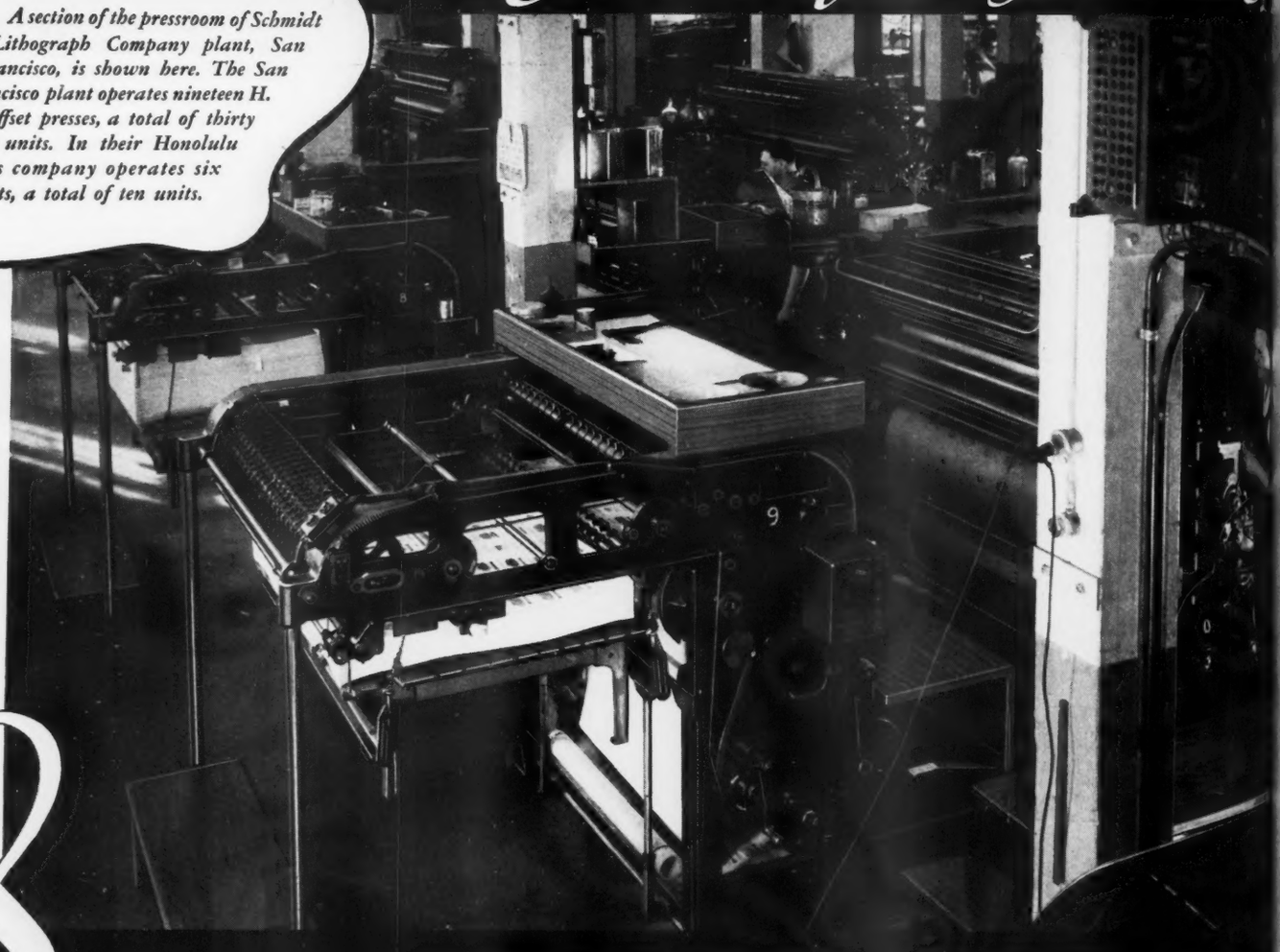
A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

The Choice of the Leader

A section of the pressroom of Schmidt Lithograph Company plant, San Francisco, is shown here. The San Francisco plant operates nineteen H. S.P. Offset presses, a total of thirty cylinder units. In their Honolulu plant this company operates six Harris Offsets, a total of ten units.



8 Sizes of HARRIS OFFSET PRESSES *Completely Cover the Requirements of the Offset World*

• Today's profits in the pressroom come from modern equipment—presses designed and built for quality work with large output. Built into the new line of Harris presses are the outstanding features which have made Harris Offset presses the recognized standard of the world. Multi-colors are operated with the ease and speed of single color units. Harris speed, volume, accuracy, accessibility and ease of operation mean extra pressroom profits and are the natural result of Harris pioneering in the building of successful offset presses.

HARRIS • SEYBOLD • POTTER COMPANY

HARRIS OFFSET PRESSES

Commercial Group:

17"x 22", 21"x 28", 22"x 34" in single color.

Color Group:

26"x40", 35"x45" in single color 41"x54", 42"x58", 46½"x68½" in one, two, three and four colors

PIONEER BUILDERS OF

GENERAL OFFICES: 4510 East 71st Street, Cleveland, Ohio • HARRIS SALES OFFICES: New York

The Human Eye in the Graphic Arts

(Have you had your vitamin A today?

By ADAM HENRI REISER

I.

"CEILING ZERO. All flights cancelled!" Non-visibility effectively impairs schedules in air travel; poor visibility in industry also has a detrimental effect on production and schedules. While this is true of all industry, it applies particularly to the Graphic Arts. That this is recognized generally is evidenced by the articles in our trade organs on the various phases of visibility.

Paint, for instance, used in decorating the work rooms and offices of the plant, may be scientifically chosen so that a maximum of light is passed along without the glare that causes eyestrain. The scientific selection of lights for various purposes from that of ordinary accident prevention to checking text and the comparison of colors also has been treated in articles in trade literature.

A brief review of outstanding methods of lighting and their characteristics may be listed under five main heads:

1. Standard Incandescent Light. Under this heading comes the commonly used Mazda lamps and electrical devices of that type usually found in ceiling fixtures or suspended on drop cords. This light resembles the direct light of the sun in that both are heavy in the yellow and red rays. These rays have been found to be hard on the eyes. The rays also create a distortion of color values in our color printing. Therefore it becomes necessary to filter out the objectionable qualities with some form of blue filter. But this robs the light of about one-third its strength.

Added to this is the additional burden placed upon the eyes when no provision is made to eliminate the glare of these lights. Actually, a glaring light is the greatest single factor in eyestrain. Lack of proper light is also a factor.

2. Specially Engineered Light Troughs and Fixtures for Incandescent Lights. Efforts by lighting engineers resulted in the development of scientific lighting equipment for the relief of eyestrain. This equipment and light sources are then laid out, both for safety and greater productive efficiency.

In 1936, The Illuminating Engineering Society published a report of a survey made of the lighting in many typical printing establishments of a large city. The survey showed astounding variations in lighting on parallel types of work. In proofreading, for illustration, the minimum lighting encountered was 11 foot-candles while the maximum in another shop reached 100 foot-candles.

Illumination in the shade on a sunny day is equivalent to 1000 foot-candles. Yet printing plants operate with an illumination ranging from ½ to 10 foot-candles. Comparison with the shade figure shows how totally inadequate even a 10 foot-candle lighting is for efficient work.

A report by the Committee on Industrial and School Lighting, which was carried on p. 29, October 1936 issue of *Printing* EQUIPMENT *Engineer*, shows a likely saving of 20 to 30 min. per man by relighting. In addition, there is the saving in eyesight, paper, ink, and supplies.

The lighting ceiling hood recommended by an illuminating engineer such as found illustrated and described on page 36, *Printing* EQUIPMENT *Engineer* for July 1937, as well as cuts carried under dates of May, June, and July 1936, in the articles in light research come under this heading of special fixtures. Other articles containing reference to thi subject will be found in the issues of October 1936, February 1937, and March 1938.

3. Mercury Vapor Lamp. This is another source of light found in printing plants. Mercury lighting is said to consume less power than incandescent lamps, while at the same time it is said to have a life three times in excess of the latter. Good visibility combined with a low glare is claimed for the mercury lamp. It is, however, strong in the blue rays and therefore unsatisfactory for color comparison or color printing. This necessitates the introduction of a filter cover glass to correct the defects and bring the mercury lamp up to daylight standards. A more satisfactory solution, however, has been found in mercury vapor in combination with incandescent light.

4. Combination Mercury Vapor and Incandescent Light. When the mixture of light from the mercury tube and the incandescent light is projected through a diffusing medium, a light is produced which is ideal for the matching of colors. It simulates the ideal north daylight, assures an even light, and effectively guarantees an even color on any job at any period of the day. It permits close observation of colors and detail without eyestrain, it is said, for the unit practically eliminates glare. An eastern shop housed in a windowless plant uses the units for light, and has found quality and production standards increased under the mixed lighting.

5. Carbon Dioxide Lamp. This is another form of lamp whose ray output has been color corrected. The device is therefore of particular benefit to color workers.

With these five descriptions, the lighting equipment in use in printing shops is about covered. It pictures the progress made towards ideal lighting. Included are many important and commendable contributions in the field of illumination in the printing industry where so much of the work is carried on under artificial lighting.

(*Continued on Page 16*)

An Invitation To You

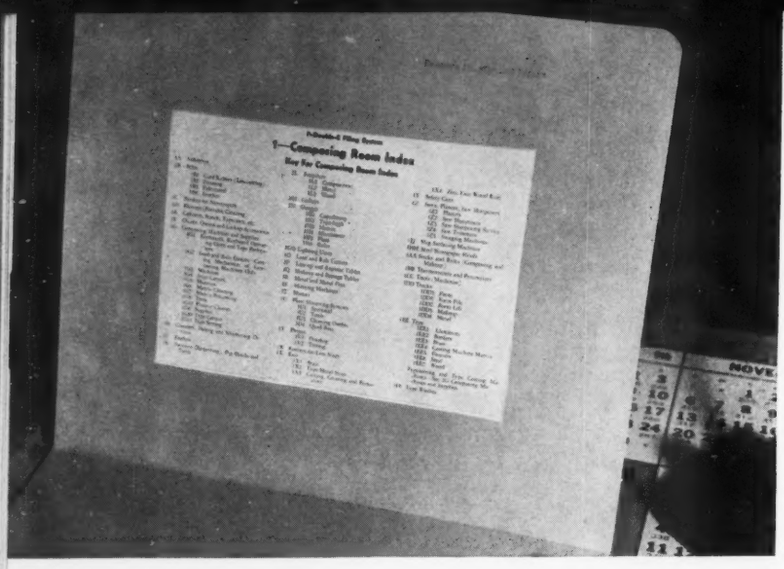
The printing plant production or mechanical executive who passes on ideas to our readers is repaying others for the many ideas he has secured from *Printing* EQUIPMENT *Engineer.*

This magazine is the printing plant executive's forum. In it he may discuss his problems or the solutions to his problems.

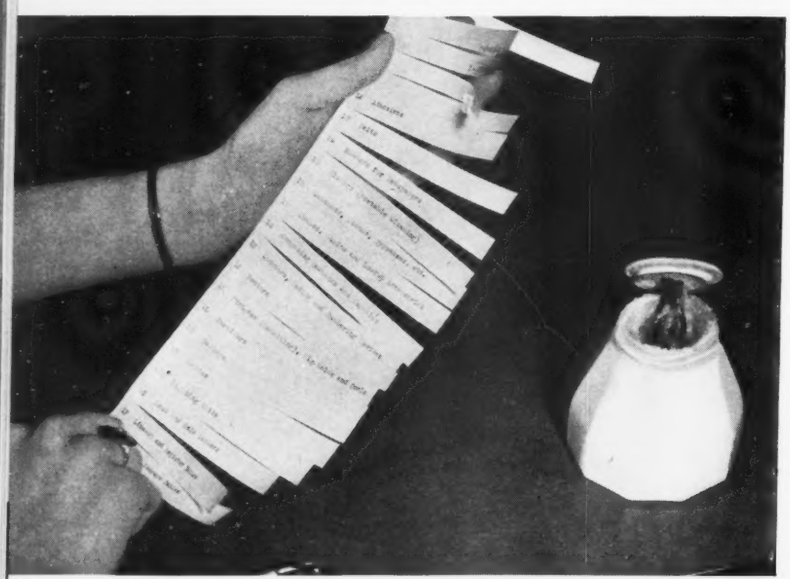
You are invited to "talk shop" with your fellows in this magazine. Don't bother to be formal—just get out the old pencil, write it on proof paper and send it to

Ware Sinclair

Editor



At upper left is the Composing Room Index Key (one of eight major indexes in the P-Double-E Filing System) published annually in the November *Printing* Equipment *Engineer* Equipment and Supplies Reference Number. The Key has been pasted to a standard manila filing divider obtainable at any office supply or book store. The divider, upon which has been pasted the key, is placed ahead of *A* in the filing compartment or cabinet for ready reference. If you do not wish to file by symbols as shown in the key, you can set up a simple alphabetical file from the subjects shown on the key. There is a key in the P-Double-E Filing System for each production department in the printing plant. (29 in all).



Lower left shows the labels cut apart and ready to be pasted on the manila dividers for the production or mechanical executive's technical literature file. The subjects have been typewritten (triple-spaced) on gummed paper and trimmed and slitted for affixing to the staggered divider tabs.

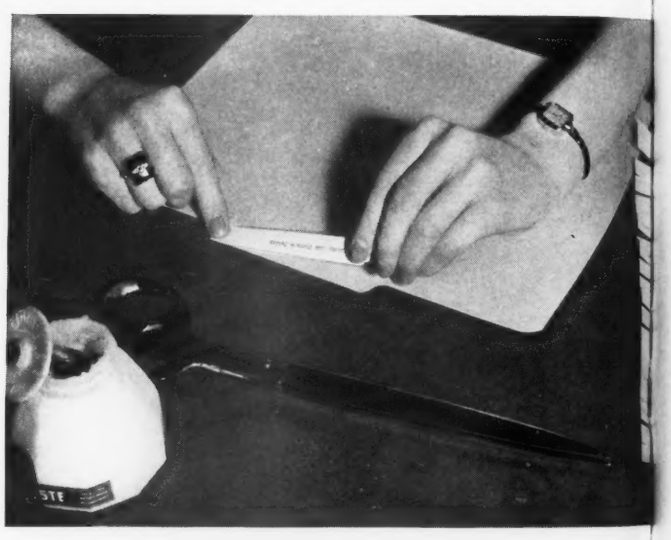
Set Up Your Own P-Double-E Filing System

EVERY production or mechanical executive needs a filing system in which to preserve various catalogs, price lists, reference material, articles clipped from trade magazines, names and addresses of the various manufacturers and suppliers with which his firm does business. The idea, of course, is to promote convenience and accessibility when manufacturer's literature is needed for reference purposes.

A suitable filing system need not be expensive. In fact, it can be gotten together by the executive himself at very little cost, perhaps with the assistance of an office stenographer who usually understands this work and who can prepare the entire index by following the executive's instructions.

Filing alphabetically by subjects is the simplest form of file. If you are interested in only one mechanical department, preparing the file is a simple matter. To prepare the P-Double-E alphabetical equipment and supplies reference file, all that is needed is a sufficient number of ordinary staggered-tab manila dividers such as are used in any office. The next step is to determine the number of subjects to be filed. These can be typewritten (triple spacing) on gummed paper, cut into strips and pasted on the staggered divider tabs. Plain bond paper and paste will do if gummed paper is not available.

After labeling, the dividers are arranged in alphabetical order in your desk drawer provided for filing purposes, or a one-section steel cabinet can be purchased at reasonable cost. Usually, for the departmental foreman, a single-section cabinet will be sufficient, but in the case of an executive supervising more than one mechanical department, two or more steel filing sections (cabinet units) are needed.



Upper right: In setting up the P-Double-E Filing System for just one or all mechanical departments in the printing plant, the next operation is to moisten the gummed labels (or to apply paste to the back of the labels in case they have been typed on plain bond paper) to fix them in position on the standard manila staggered-tab file dividers.

At lower right are several dividers raised up to show how the labels look which have been pasted to the staggered tabs, arranged according to the P-Double-E Filing System. The departmental file is now ready for placing technical literature, catalogs, price lists, folders or technical articles clipped from trade magazines in their proper classifications. As has been stated above, you may set up a simple file to start with by using the alphabetical titles as provided in the P-Double-E Filing System. It is best, however, to set up the file according to the symbols. The file, if properly maintained, will enable you to locate information just when you need it urgently—perhaps when the Old Man is waiting for something pertinent to equipment purchases or production costs.

Paper

Printing requirements discussed from the standpoint of papermaker and the printing plant executive —The paper makers' limitations

By B. L. WEHMHOFF

II.

THE third requirement of the printer, suitability of the paper for the process intended, can be determined within reasonable limits. The principal paper characteristics that determine printing quality are formation, ink receptivity, printing smoothness, opacity, surface strength, density, and in some cases, gloss. With one exception, these are not listed in their respective order of importance as this varies with the different kinds of printing. The one exception is formation. It is listed first and *is* the most important. Without a good formation for its particular kind, a paper will be unsatisfactory, no matter how well it may show up in the remaining tests. Unfortunately, formation is the only factor that cannot as yet be measured satisfactorily in numerical terms. If, after the various factors have been measured, the results are interpreted in the light of the kind of printing to be done, the press speeds, number of colors to be printed at one time, the screen of the halftones, etc., a good forcast can be made of the quality of printing that should be expected.

EDITOR'S NOTE:

This is the second of a series of two articles about paper in which B. L. Wehmhoff discusses the printing requirements of paper from the standpoint of the production and mechanical executive. In this Part II, Mr. Wehmhoff discusses suitability of paper for the process to be used, meeting specified figures in printing quality tests, letterpress halftone screens, heat-set inks and gloss inks require paper having certain definite characteristics.

PAPERMAKER'S LIMITATIONS

A papermaker cannot meet a certain specified figure in any of the printing quality tests any more than a pressman can hold an exact color on every page of a 32-page, 4-color form in a run of 100,000 impressions. Fortunately, the requirements of the printer are not so rigid as to demand adherence to an exact figure. There is a range, or in some cases a minimum, within which the printer can obtain uniform results, and the determination of this range is of prime importance if specifications are to be set up for the papermaker. Through experience many mills have determined the approximate range for these tests, and it is therefore to the advantage of the printer to tell the papermaker as much as possible concerning the job.

HALFTONE SCREENS IN LETTERPRESS PRINTING

The fineness of halftone screens best adapted to various finishes of paper in letterpress printing is frequently a subject of debate. As a rule the screen used is too fine. The screens used in most book and publication work are 100, 110, 120, and less frequently, 133-line. Newspapers use coarser screens, in some cases as low as 55-line. Some manufacturers state that 110 or 120-line screen halftones can be printed satisfactorily on their English finish papers. While this is true, provided care is taken, it is equally true that a better and cleaner job can be produced, particularly on long runs, when 100-line screens are used on those same papers. Likewise, 120 and 133-line screen halftones are often stated to be satisfactory for the average or B grade super. Again, 110-line screen halftones will give better results. One of the best, if not the best printed magazine of national circulation using B grade super uses 110-line screens exclusively, and the best of the publications printed on English finish obtain their best results with 100-line halftones.

The reason for this is plain. The coarser screens are better fitted to print on paper surfaces that are not perfectly level, and no one has yet made perfectly level book paper. In fact, it is only a recent accomplishment for some supers to be smoother than English finish papers made by other mills. Also, the slightly greater depth of etching helps prevent the paper fibers from picking up ink from the spaces between the dots.

MULTICOLOR WORK IN LETTERPRESS PUBLICATION PRINTING

Multicolor work in letterpress printing for publications is usually done on A grade super or coated paper. A notable exception is mail order catalogs, where some of the work is done on halftone news. In this case the screen is much coarser than that used on the higher grade papers. Most of the 4-color magazine plates are 120-line screen, with a few 133-line. As a rule the latter is used more on high grade brochures than on publication work.

HEAT-SET INKS HERE TO STAY

One of the newer developments in web press printing is the use of inks that dry by evaporation. These inks, commonly called heat-set inks are different from ordinary web press inks in that the vehicle or liquid part of the ink is a solution of natural or synthetic resins rather than

(*Continued on Page 24*)

Correction

In the Printing Equipment and Supplies Index, page 101, published in the November issue, the name of the Anchor Chemical Co. was omitted inadvertently as manufacturers of a type wash under the key heading 1FF Type Washes. The listing is as follows:

TYPE WASHES 1FF
Anchor Chemical Co., 509 Fifth Ave., New York, N. Y.....165

Please make this addition to your copy of the index as indicated.

Equipment and Supplies

100-Watt Fluorescent Lamp

Out of the laboratory which produced the 100-watt high efficiency bulb-type mercury lamp comes a new light source for general industrial lighting, a 100-watt fluorescent lamp. Developed by the General Electric Vapor Lamp Company, the new lamp is a tubular light source, 4 ft. in effective length.

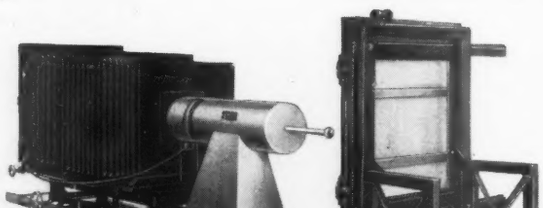
The lamp derives its terminology "fluorescent" from its utilization of a special high efficiency fluorescent material as the inside coating of the tube. Ultra violet radiations produced in the tube are converted by this coating to visible light by means of a high ratio energy transformation. The rated life of the fluorescent lamp, it is expected, will be upwards of 2000 hours.

Probably the outstanding feature of these lamps, resulting from use of the phenomenon of fluorescence, states manufacturer, is their high efficiency. Contrasting with the 100 w. bulb-type mercury lamp, for example, whose initial efficiency is 35 lumens per watt the efficiency of the 100-watt fluorescent lamp is 50 lumens per watt, or 3 times that of equivalent wattage incandescent light sources.

Inasmuch as the color output of the lamp will probably be somewhat bluish, it will not be primarily adapted for color matching. However, color discrimination of most shades, excepting red, will be possible.

The new lamp is a result of three years of laboratory research by the General Electric Vapor Lamp Company. The 100-watt fluorescent lamp is expected to find application in industry where critical seeing tasks require high illumination levels.

P-Double-E File No. 1GG.



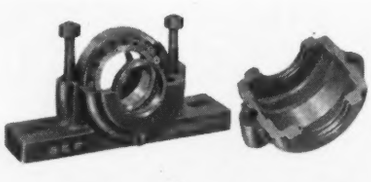
Color Projection Apparatus

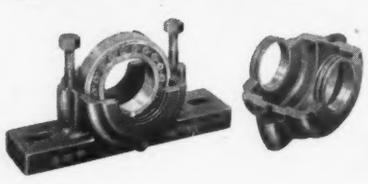
R. R. Robertson has announced the development of a projector for projecting color films to obtain color separation negatives through the halftone screen for color printing plates. Any size color film up to 5 in. by 7 in. can be handled in the projector. Manufacturer states even up to nineteen times enlargement the negative show remarkable sharpness.

The SKF Triple Seal

A patented Triple Seal which protects the bearing against lubricant leakage, dust, dirt, and moisture has been made available by SKF Industries. This seal consists of two split piston rings on each side of the housing and grooved on the outside diameter to form a labyrinth seal with the two end bores of the housing. Each ring has an inward tension that enables it to turn with the shaft.

On either side of the housing, two rings are mounted on the shaft with the splits 180 deg.





apart to prevent lubricant leakage through the splits. The inner ring serves as an internal flinger, and the outer ring keeps dirt and other foreign substance from entering the housing.

Because these rings are not securely fastened to the shaft, the seals are free to locate themselves axially whenever shaft expansion occurs. Consequently, close clearances are maintained at all times between the rings and the housing.

Made of cast iron, the rings are hammered on the outside diameter in order to obtain the required inward tension to hold them properly on the shaft. If any lubricant should pass the first seal, it is returned into the housing through a hole located in the center groove of the bottom half of the housing. The lubricant is returned at a point below the oil level.

The Triple Seal is made for the complete range of standard shaft sizes, and is designed for split housings which are machined to allow axial freedom of the bearing. These housings are sturdy and designed to accommodate various shaft diameters which are necessary to compensate for the various types of bearings having the same outside diameter.

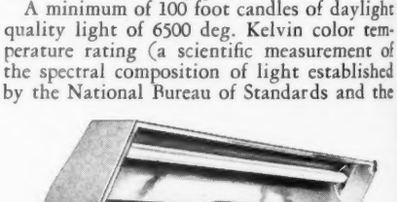
Assembler Scale Pointers

The assembling elevator em scale indicators announced by Mergenthaler Linotype Company are easily operated and are designed to speed up the setting of food store and similar composition. The indicators, or pointers, are slid along the as embling elevator em scale to a point in front of the center of words or characters in a line, and, being left there, make it easy for the operator to determine accurately and quickly the positions that other words should be given in succeeding lines.

"Daylight" Fluorescent Lamp Diffuser Units

New lighting units have been announced by the Benjamin Electric Mfg. Company. These units have been designed to utilize the lighting characteristics of the recently introduced "Daylight" White Fluorescent lamps and are said to provide high efficiency for lighting operations requiring accurate color discrimination. The "Daylight" Fluorescent Lamp Diffusers are intended for color matching and color proofing in printing and lithographing plants and engraving shops; for ink mixing departments of printers, engravers, etc., color checking and mixing operations in ink manufacturing plants.

A minimum of 100 foot candles of daylight quality light of 6500 deg. Kelvin color temperature rating (a scientific measurement of the spectral composition of light established by the National Bureau of Standards and the



International Commission on Illumination as the standard for even the most exacting color work) can be distributed uniformly over an area 3 ft. by 4 ft. when a 36-in. lamp unit is suspended 30 to 36 in. above the surface; a proportionally lower intensity over a relatively smaller area is provided by the 18-in. lamp unit. The claim is made that the "day-

(Continued on Page 36)

Alterations

And expenses incidental to changing from 6 pt. to 4 pt. column rule on three Gannett papers

FROM statements made to Production Manager John A. Burke of the Gannett Newspapers, Mechanical Superintendent Bernard F. Garrity of the Hartford (Conn.) *Times;* Business Manager T. V. Taft of the Danville (Ill.) *Commercial-News*, and Eugene Jagareski of the Albany (N. Y.) *Knickerbocker News*, it is evident that the change-over of equipment suitable for handling pages made up with 6 pt. column rule to pages containing 4 pt. column rule caused no undue difficulty. The reports also indicate that the changes were made with minimum expense.

Some mechanical executives have felt that making equipment changes to accommodate narrower newsprint width is an involved operation and quite expensive. The experience of the three executives printed below is quite assuring to newspaper executives who may be considering such changes in their plants.

Bernard F. Garrity
Mechanical Superintendent
Hartford (Conn.) Times

T. V. Taft
Business Manager
Danville (Ill.)
Commercial-News

Hartford (Conn.) *Times*

The Hartford *Times* Mechanical Superintendent Garrity's report is as follows:

In making the change on the Hartford *Times* from 6 pt. to 4 pt. column rule, which enabled us to change our paper width from 68 in. to 66½ in., we had very little trouble or expense. I believe this is due to the fact that when we made the change, a few years ago, from a 12½ em column to a 12 em column (at which time we changed from a 78 in. roll to a 68 in. roll), we went all the way and made every change that we felt to be necessary.

In the composing room we encountered most of our expense. We purchased a new 4 point column rule mold for our strip material maker. We also bought several strips of cold rolled steel, which we cut up into the proper lengths, to be used as filler strips in the page forms to take up for the 14 points we were saving by using the narrower column rules.

Our head composing room machinist, Joseph M. Gallagher, devised a very simple arrangement for application to our Linotype machines for obtaining the 24 em. 4 pt. vise jaw measures. With this device, it is only necessary for the operator to reach over and push down a small knob which is fastened to a piece of steel 2 points in thickness after he has set the left vise jaw to 24½ ems in the regular way. In so doing, the operator has changed the vise jaws from 24½ ems to 24 ems-4 points for all two-column measures. This small device has been fastened to the end of the left-hand vise jaw and when the device is pushed down it takes up the 2 points of space between the jaw and the adjusting rod. The operator does not change the assembler measure except to set it to 24½ ems. As yet, we have had no trouble with tight lines and do not anticipate that we will have. The operator either drops in a thin space at the commencement of each matrix line or leaves enough "slack" in the matrix line so there will be no machine stop when the matrix line is delivered into the vise jaws. As all our ad machines are equipped with Mohr Lino saws, there was no necessity for a change here.

We made up a new chart of the multiple column widths which would be required after the change had been made to 4 pt. column rule. These were passed around in advance so the men would become familiar with the differences in the measures. We made no announcement of the change until the Friday preceding the Monday that had been set to make the change. On Saturday we had a number of signs printed in large type. These signs read: "Watch Your Measures!" The word *Measure* was printed down the sign, one letter under the other. These were posted in the composing room. We consider it was well worth the time as the men did not slip up on a single advertisement. However, we had to change a few advertisements that had been made up in advance.

As we had been obtaining more mat shrinkage than was needed for some time, it was only necessary to add a little more moisture to be sure of an additional one-eighth in. mat shrinkage in the stereotype room. In order to give the pressroom plenty of leeway, our machinist set up the cutters on the Juniors as we are undercutting the plates on both ends. This took care of the clips on the press. It was then necessary for the machinist to make an offset knife for the plate shavers. The only other change in this department was a slight adjustment to the casting box so that when necessary a page mat could be reversed for casting.

Eugene Jagereski, Mechanical Superintendent Albany (N. Y.) Knickerbocker-News.

The only changes then needed in the pressroom were to move the folders in and also the nipping pins. This was done by our plant machinist, Edward Brule.

The pressroom had already done a fine job on running down on all but a very few rolls of the old width paper. In fact, on Saturday prior to the change, they finished up all of two of our old sizes except for a few butts. These were turned over to the job room to be cut up for office use.

We made no announcement to local advertisers of the change we were making and up to the present time have had very little difficulty with wide cuts; at least no difficulties we have not been able to overcome.

Following is a statement of what the change cost us in actual cash:

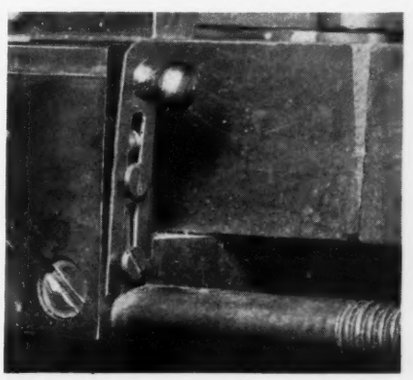
Composing Room	
6 pieces cold rolled steel ¾ in. by 3/16 in.	$4.46
Mold liners	17.08
One 4 point mold	75.31
One matrix	7.27
Stereotype Room	
3 steel pouring sheets	12.23
Pressroom	
None	
Total material cost	$116.35

Albany (N. Y.) *Knickerbocker News*

THE *Knickerbocker News* changed over from 6 pt. column rule to 4 pt. column rule on August 22, 1938. This change was made without confusion in any department. This change was decided upon to provide a means to meet the increased cost of white paper without reducing the news content of the paper.

The first step preparatory to making the change was to secure some 4 pt. column rules and make up sample pages to let the management see and decide if the 4 pt. rule would detract from the appearance of the paper. The

(Continued on Page 20)



This is a partial inside view of a Linotype left-hand vise jaw. Attached to the left-side of the vise jaw is the spacing device made by Machinist Joe Gallagher and described in the accompanying article by Mechanical Superintendent Bernard F. Garrity. The device is employed for setting the left vise jaw to 24 picas 4 pts. so that when composing double-column matter which is to be made up in a form containing 12 em columns and 4 pt. column rules, the double-column slugs will be just the right length. To use the device, the operator sets the left vise jaw adjusting rod in the usual manner to 24½ picas, then pushes down on the little knob to insert the 2 pt. blade between the vise jaw adjusting rod and the left vise jaw.

All parts of the device are made from standard Linotype parts except the blade itself which is fashioned from either end of a hack saw blade approximately 2 points (0.028 in.) thick. The standard machine parts used are:

1—C471 Assem. Ele. Duplex Rail Ball
1—D2317 Assem. Ele. Duplex Rail Ball Spring
2—D1301 Delic. Chan. Align. Piece Screws
1—D1582 Assembler Cover Handle

It is not necessary to give detailed instructions for making the blade itself nor for proper spacing of the screws. A hole is drilled in the left end of the vise jaw to receive the spring and ball for putting spring tension on the blade, so it will remain in either the up or down position. The bottom edge of the blade is slightly tapered. The end of the vise adjusting rod is angled off slightly to provide clearance for the bottom screw head.

Human Eye

(*Continued from Page 11*)

There are other contributions in the field of visibility. A recent investigation has revealed the fact that 50% of the workers in the Graphic Arts are victims of some form of eyestrain disease. This has led to a detailed study out of which some interesting observations have come.

Strange as it seems, the eye loses something whenever it is subjected to glare or strong light. Ancient Egyptian astronomers recognized the harmful effect of strong light on their eyes, and are said to have ventured out only at night, thus to be able to see more clearly the object of their studies. Famous old-time painters, using subdued light and colors, were thus able to conserve their eyesight, and as a consequence painted remarkable pictures even in their old age.

In the study of the eye, some paths taken by current research in opthamology are:

A. The effect of light on the eye.
B. The replacement in the eye of the substance expended by sight.
C. The effect of sound on sight.
D. Speed reading and the conservation of sight.

What is the result of the study under each head, and how may it be applied to the Graphic Arts?

The Effect of Light on the Eye

It is common knowledge that the increased strain on photo-engravers' and lithographers' eyes, caused by their constant exposure to the strong lights of the camera, printing frame, light tables, and the art tables, has resulted in diminishing vision acuity. Eyes lose their power long before their normal range. Glasses become restful and then absolutely necessary. Some men refuse to use them for various reasons: These are bothersome; their use becomes habitual and the eyes get worse; they detract from the sales value of the person.

Graphic Arts workers with failing eyesight are like a swing band without a bass drum, or without a "doghouse," using jitterbugese. With declining eyesight comes a reduction of efficiency; work suffers both in quantity and quality. It's the old story of poor eyesight in schoolrooms all over again. Many of the low grades of students have been found to be victims of improper lighting and poor eyesight. So in the shop comes the obnoxious cycle of uncertainty, repetition, errors, and loss of confidence, with its resultant loss of efficiency.

That this failing eyesight is a trade matter has been established definitely by the findings of Drs. Ralph C. Wise and O. H. Schettler. Their report in the June issue of the *Ohio Medical Journal* reveals work in the field of color matching.

Drs. Wise and Schettler note that the close application of the eyes to work, and the strong bright light in which that work is done destroys and bleaches out the "visual purple" of the retina, and reduces the light threshold.

In the photo-lith field, early work over stripping and retouching tables forced the operator to look directly into glaring unshielded lights under a clear glass table top. The introduction of the ground glass top has removed a large portion of the eyestrain encountered in early tables. Exposure to strong light necessary in photography and platemaking also must deplete the visual purple rapidly.

So far we have treated some factors in visibility in printing. Principal lighting methods were outlined as were some of the steps in the study of sight. In the next installment we'll follow with the four remaining items of sight study, and conclude with some recommendations from authoritative sources.

(*To Be Continued*)

Ornamentation

Achieved with machine-cast rule, gravers and creative ability.

By STAFF WRITER

JOSEPH THUERINGER, associated with Bohme & Blinkman in Cleveland as a typographer, certainly possesses a creative turn of mind. A number of original designs created by Mr Thueringer, mostly from stock machine-cast rule to be found in the average composing room are shown on page 18. It seems simple enough to state that these designs are created from such prosaic things as machine-cast rule. The difference, however, lies in Mr. Thueringer's ability to turn a commonplace article into something that will reproduce beautifully on paper.

To provide an ornament or decoration, where solid or shaded areas are to be incorporated in the design, Mr. Thueringer first draws the design with pencil on tissue paper in the actual size as it will appear when finished. A quantity of rule covering the square of the area which is to be reproduced is assembled and the tissue paper design is placed on top. The general outline of the design is transferred to the rule by a conventional graving tool. After the design has been "pricked" on the rule, Mr. Thueringer cuts away the excess metal, using several gravers each having different points.

The suggested likeness of Gutenberg shown in the center of the upper row, was cut entirely from a machine-cast rule mass, as were the type elements shown at either side. The crown near upper right-hand corner is composed of border elements.

An interesting likeness of a line-composing machine slug is reproduced on page 18. It is composed entirely of rule and one piece of border. The piece of border appears at the top of the slug which is set and packed at an angle in a square area of machine-cast spacing material. The perspective of the buildings is particularly good.

In producing some of his work, Mr. Thueringer has had occasion to utilize a section of old electrotype plate by turning it upside down and graving the desired image in the lead side of the cut.

Please turn to Page 18 for reproductions of Mr. Thueringer's craftsmanship.

Joseph Thueringer (left) and "Rudy" Albert, Composing Room Superintendent of Bohme & Blinkman, Cleveland, discuss a layout.

A FULL MEASURE OF QUALITY PRINTING
Produced on the New COTTRELL CLAYBOURN Rotary
ONE and TWO COLORS PRINTED
PROCESS—OR—FOUR-COLOR WORK TWIC
PRINT ROTARY The MODER

This new Cottrell Claybourn Rotary is available in three sizes—26x28, 28x42, and 32x45—all of which will take oversize forms and sheets.

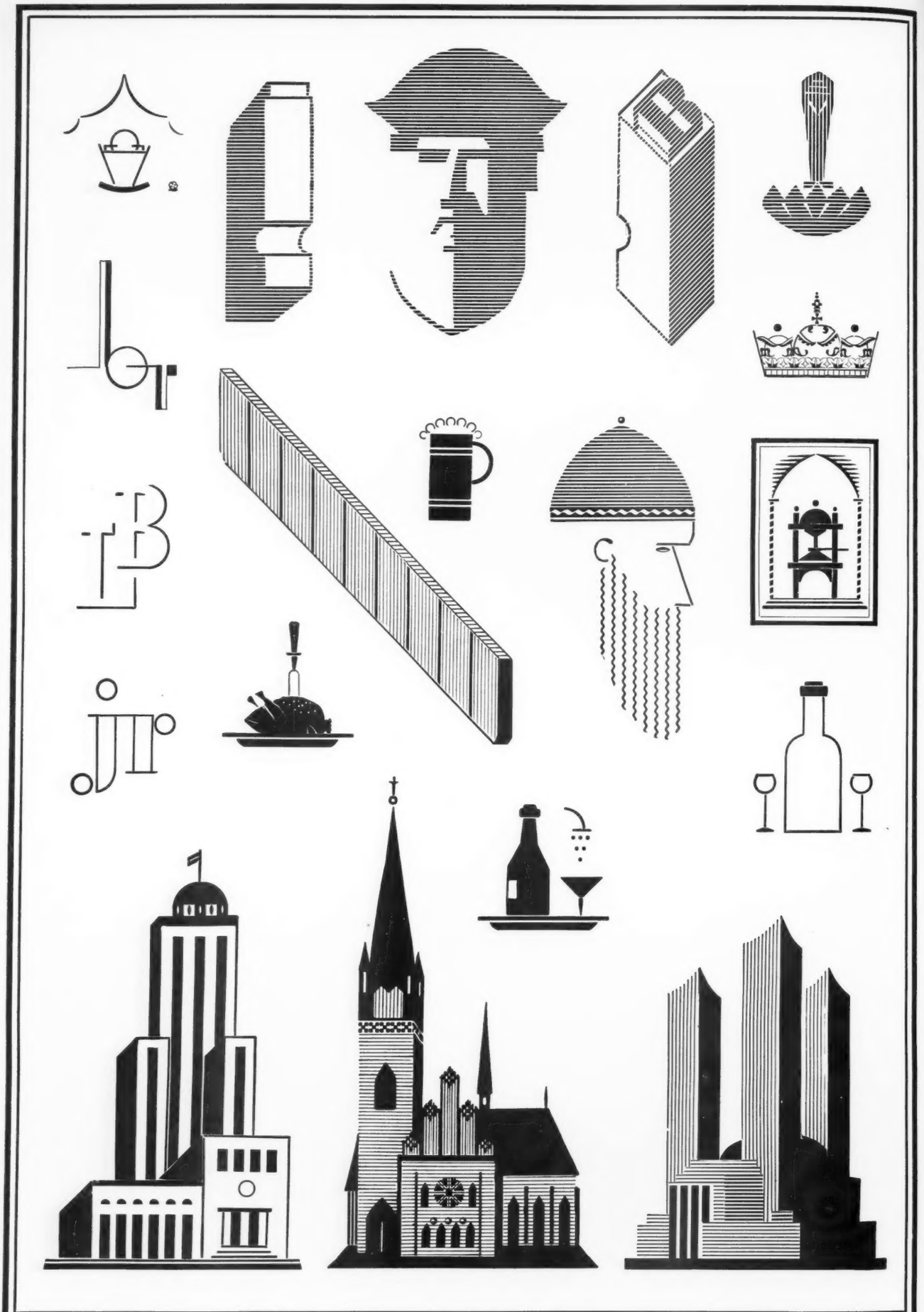
A new booklet for profit-minded printers

This booklet tells all about the Cottrell Claybourn Rotary Press—the *new* press which puts the commercial printer on a par with the large edition printer in producing quality work at high speeds. The booklet is itself an interesting example of good color printing—particularly interesting because the whole job, including six two-color printings of halftone work, process, tints and type, was produced on a Cottrell Claybourn Press, *without makeready,* from plates made with Claybourn Plate Making Equipment. *A copy of this booklet will be mailed to you on request.*

C. B. Cottrell & Sons Co., Westerly, R. I.

NEW YORK: 25 East 26th Street • CHICAGO: 332 South Michigan Avenue
CLAYBOURN DIVISION: 3713 N. Humboldt Ave., MILWAUKEE, WIS.
SMYTH-HORNE, Ltd., 1-3, Baldwins Pl., Gray's Inn Road, LONDON, E. C. 1

Cottrell



In Cleveland, Bohme & Blinkman's Joseph Thueringer creates designs from machine-cast rule and perhaps an occasional used electrotype. *Story on page 16.*

Replates are Costly!

REPLATES waste time and increase operating costs—both in the stereotyping department and in the pressroom.

Practical operation of the Wood *vacuum casting* principle—as applied to Automatic, Junior, and Pony Autoplates, in more than fifty stereotyping departments—has proved conclusively that this method of casting greatly reduces replates and in some cases *eliminates* this source of wasted time and money.

Further information about Wood Vacuum Casting Equipment will be furnished on request.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • NEW YORK OFFICE: 501 FIFTH AVENVE

Avoid Replates by means of Wood Vacuum Casting Equipment

View of Wood Heavy-Duty Autoshaver which trims stereotype curved plates to precise dimensions.

Wood Heavy-Duty Autoshaver

A heavy-duty curved stereotype plate shaving machine, called the Autoshaver, has been announced by the Wood Newspaper Machinery Corporation. It will shave stereotype plates to precise dimensions through improved mechanisms supplemented by extra heavy construction of the main frame according to the present trend in machine design.

The heavy-duty Autoshaver weighs 3½ tons which is 1¼ tons more than the standard Autoshaver. The new machine is of the same overall dimensions as the standard Autoshaver and can be installed in the same location without rearrangement of stereotype department equipment.

The main frame and arch are made in one casting to insure accurate location of the arch. Two knives for roughing and finishing cuts shave each plate. The shaving knife bar is mounted in pre-loaded roller bearings. Plates may be shaved a second time without removal from the arch. Manufacturer states the second shaving operation is beneficial to open-ad plates. To eliminate possibility of chips sticking to the shaving knives, the knives are lubricated with oil.

In the heavy-duty Autoshaver, both outside and inside of the plates are cooled through independently adjusted water supply. Compressed air is used to blow sawdust from the face of the plate as it enters the arch and to blow water from the plate after the plate has been cooled.

In clamping the plate in the arch, improved lifting and pinching mechanisms are used. A lower trimming tool is placed behind the first knife to eliminate chip accumulation. Plates are lifted off rollers while being shaved to prevent indentations at the head and foot. A shear pin on the shaving knife bar is easily accessible. All adjustments can be reached from the outside of the machine and are covered by easily removable guards.

The motor drive is direct connected and is located in such a way as to eliminate any danger from water splash.

Further information may be secured from the Wood Newspaper Machinery Corporation or in care of *Printing* Equipment *Engineer.*

P-Double-E File No. 2G27.

Alterations

(Continued from Page 15)

presence of the 4 pt. rule was not noticeable to most of those shown the sample printed sheets.

The mechanical changes and the resultant costs will vary in different plants, depending upon the savings and equipment at hand.

Previous to the change-over, we were using 67½ in. paper and it was decided to save 1 in. or reduce to 66½ in. paper. It is estimated that the *Knickerbocker News* will save about 1.5% a year by adopting the narrower widths of paper.

National advertising plates were measured for a number of weeks before the change-over and not one plate was found that would not go in the narrower measures. All copy prepared for the national advertisers is set with plenty of leeway for the narrower column.

Editorial and Advertising departments were notified three weeks in advance. A week after we had adopted the 4 pt. column rule I had this question from one of the assistant department heads: "When are we going to change to the new measures?"

The change from 6 pt. column rule to 4 pt. column rule reduces the page width 14 points, or 56 points across the 4-plate press cylinder.

Before the change-over, all departments were given the new column widths and our national advertising agency was also notified. Most of the changes were made prior to the change-over date. The company supplying us paper was notified three weeks in advance to give time to ship paper in the new sizes.

Composing Room Changes

On the Linotypes, our machinist made a number of thimbles 2 points thick which we place on part E-892, Vise Jaw, L.H., Adjusting Rod, for setting 24 ems and 4 points. This device closes up the jaws 2 points when the jaws are set at 24½ ems. New 24.4 liners were ordered from the Mergenthaler Linotype Company and in some cases we cut down others to the new measure. A mold was purchased for the casting of the 4 pt. column rule from the Monotype Company for our Material Maker. After casting some sample 24 em 4 pt. lines, we found that we were getting a line with a rib projection on the left end of the line due to the end of the line terminating at a point midway in a rib in the mold cap. To overcome this, our machinist carefully filed out the slot for the cap guides on the right end of the caps, ground a little off that end of each cap and slid the caps to the right before he tightened the cap clamping screws. The screws will hold the cap firmly in position.

Filling-in pieces $\frac{3}{16}$ in., were made for all type chases; foot sticks were cut down 14 points each and the new column widths were posted in the ad alley.

All standing ads were proved up in advance and reset to the new measures and all ads coming in during the week before the change-over were set to new measures, thereby saving us confusion on the first day when the new measures were used.

The new column widths are as follows:

1 Column—12 ems	5 Column—61.4 ems
2 Column—24.4	6 Column—73.8
3 Column—36.8	7 Column—86
4 Column—49	8 Column—98.4

Press Room Changes

It was found necessary to take out our formers on the presses and reduce the centers ¼ in. to make room for the slitters. The drag rollers were removed at the head of the formers and reduced one section on each side ¼ in. This was done to be in a position to run tabloid sections when necessary. Plates were cast to the new widths in advance, placed on the presses and the clamps reset; minor adjustments were made, and the pressroom was ready to go ahead without any difficulty. Our first edition on August 22nd was printed on time as usual.

The new paper widths are:

Full Rolls	66½ in. wide
Three-Quarter Rolls	49⅞ in. wide
Half Rolls	33¼ in. wide

Stereotype Department Changes

We use two Wood Pony Autoplates for casting plates. We found that the last rib in the core did not come out to the end of the plate. The cores were taken off and new ribs cut in both. New tailpieces were made and margin bars altered to fit the new tail boards. The same mat shrinkage is maintained as before.

The cost of changeover to 4 point Column Rule from 6 point Column Rule at *The Knickerbocker News*, Albany, N. Y., was as follows:

Composing Room	
Cutting down steel base and alteration to chases	$101.40
Grind mold caps	12.85
Liners	15.00
4 pt. column rule mold and mat	81.00
Stereotype Room	
4 tailpieces for Autoplates	24.00
Cutting extra ribs in cores on both Pony Autoplates	25.00
Pressroom	
Alteration folders	59.00
	$318.25

Danville (Ill.) *Commercial-News*

Business Manager Taft's summation of time and cost of material for changing equipment to print on 66½ in. paper instead of 67½ in. paper, is as follows:

Composing Room	
Cutting down steel base (51 pieces)'	$15.30
Material to fill in chases (30)	2.47
Mold liners (8)	10.00
4 point column rule mold'	37.50
Stereotype Room	
Cutting extra ribs in core of Pony Autoplate'	12.00
Pressroom	
Reducing width of formers (2) and enlarging slots for tabloid slitters; changing the location of delivery and collecting cylinder pins	120.31
Total	$197.58

Our composing room machinist spent about 16 hours and the press and stereotype foremen about 30 hours on the work incidental to making these changes. This was part of their regular time so no allowance has been made in the above figures.

We did not find it necessary to put a new tailpiece on the Pony Autoplate. The clips and lock-up on the press were adjusted without making any changes.

DUPLEX SUPERIORITY AGAIN PROVEN THE WORLD OVER AS EVIDENCED BY

the following plants which have recently purchased Duplex Presses and color equipment

Plant	*Style of Equipment*
American Publishing Corp., Detroit, Mich.	Unitubular Unit and combination half and quarter page folder
Chronicle Gazette Pub. Co., Portsmouth, N. H.	16-page Unitubular Press
City Printing Co., Pittsburgh, Penn.	4-page Unitubular Press
Dunkirk Printing Co., Dunkirk, N. Y.	24-page Tubular Press
El Diario de Hoy, El Salvador, San Salvador	Model E High Speed Flat-Bed Press
Imprensa Official, Piauhy, Brazil	Model A Web Perfecting Flat-Bed Press
Kansas Color Press, Lawrence, Kansas	Unitubular Color Deck
Malaya Tribune, Singapore, S. S.	Model A Web Perfecting Flat-Bed Press
Plymouth Mail, Plymouth, Michigan	Model A Web Perfecting Flat-Bed Press
Rotary Press Co., St. Paul, Minn.	Tubular Color Deck
Republican, Findlay, Ohio	20-page Unitubular Press
Sociedad Editorial, Medellin, Colombia	Model E High Speed Flat-Bed Press

- *Wherever newspapers are read, at home or abroad, Duplex is recognized as the leader in the Newspaper Printing Press Field.*

OUR CUSTOMERS WRITE OUR ADS.

The
DUPLEX PRINTING PRESS COMPANY
BATTLE CREEK, MICHIGAN

Employment and Service

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* EQUIPMENT *Engineer*, 1276 West Third St., Cleveland, O.

PRINTING EQUIPMENT AND SUPPLY SALESMAN—Well acquainted in midwestern and southwestern territories. Newspapers and commercial printers. Desire permanent connection offering advancement. Available January first. Reply Box 66.

YOUNG MAN—Twenty-one years of age, wants to make connection with photo-engraving plant. Has had 2 years of college; 2 years' experience in offset plant on camera and plate-making; 1 year's experience in photo-engraving. Will go anywhere. Reply Box 65.

PRODUCTION MANAGER OR SUPERINTENDENT—Wants connection with commercial letterpress printing plant. Prefers plant with offset department. Twenty years executive experience. Married. Will go anywhere. Reply Box 67.

MACHINIST—Wide experience in repair and maintenance of all types of line-casting and other composing room equipment. 30 years of age. Formerly worked on newspaper which suspended publication. Best of references. Reply Box 64.

Here is a view of the judges at work selecting the winners in the recent ATF Ideal Press Contest. Left to right they are: George H. Cornelius, Immediate Past President, United Typothetae of America; Hon. Augustus E. Giegengack, U. S. Public Printer; Thomas E. Dunwody, Director, Technical Trade School and Editor The American Pressman; *Clark R. Long, Immediate Past President, International Association of Printing House Craftsmen; Alma Cook, Contest Secretary. American Type Founders announced the 170 winners in the November issue of* Printing EQUIPMENT Engineer *and other trade publications.*

Talks To Canadian Publishers

John E. Allen, editor of the *Linotype News*, spoke on "Modern Trends in Newspaper Makeup," before members of the Ontario Provincial Dailies Association, at the Royal York Hotel, Toronto, Canada, Monday afternoon, November 28.

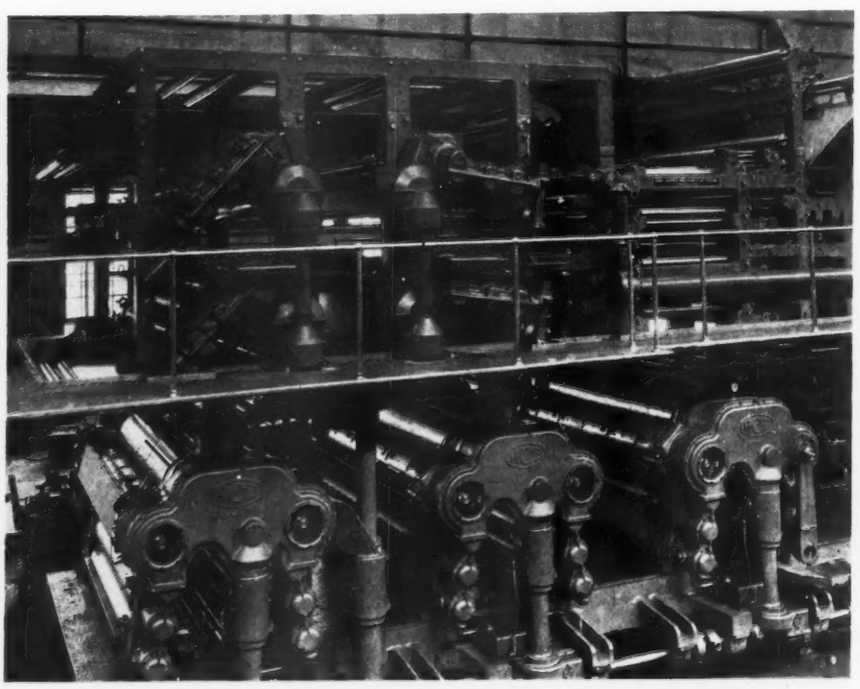
Set Up Your Own
P-Double-E Filing System
See Page 12

Introduces Caledonia

With the introduction of Caledonia, a new face designed by W. A. Dwiggins, the Mergenthaler Linotype Company extends its repertory of types for book and periodical composition. Caledonia, which soon will be available in five sizes (8, 9, 10, 11 and 12 point) has been designed somewhat like Scotch Modern, but less stiff in design.

The new face falls within the "modern" classification, but is drawn with more flexibility in individual characters than is usual in the traditional modern face fonts. Tests thus far made with Caledonia indicate that this leaning toward a slightly freer treatment of letter forms helps the new type materially in the function of fusing easily into words, and consequently promises to put the face in the front rank of easy-reading types.

HERE is a brief showing of the 11-point size of Linotype CALEDONIA, a new printing type designed by *W. A. Dwiggins*. A complete range of sizes will be available soon.



Hoe Press to Times-Picayune

The new Hoe Super-Production Press, recently shipped to the New Orleans *Times-Picayune*, is a six-unit arched-type equipped with a Hoe double-former, double-delivery super-production folder which has a double-upper former, bay window arrangement. For each unit there is a Hoe three-arm reel, electrically-controlled, automatic tensions and a Hoe full-speed pasting mechanism.

A feature of the new press is its four-color printing attachment, situated above the black units in front of the folder. Features of this four-color attachment include: Roller bearings, deep-groove thrust bearings, crankshaft-vibrated ink distribution, eccentric micrometer impression adjustment and oil-tight guards. It is heavily constructed for high speeds and arranged to take the web from any one of the three black units in front of the folder.

The press also includes provision for spot color printing with a duo ink rail on the second impression of the unit in front of the folder.

A. P. S.
Stereotype Supplies
OFFER YOU

The Perfect Combination

QUALITY PLUS ECONOMY

PACKING FELTS

● SUPERIOR GUMMED PACKING FELT

Extra large sheet ..... 18″x28″
New positive adhesive
All gauges ..... 15c per sheet

Discounts for quantity:

300 sheets 5%
500 sheets 7½%
700 sheets 10%
1000 sheets ..... 10%—PREPAID

● FLEX-O-FELT

Sheets ..... 18″x24″
All gauges ..... 12½c per sheet

Discounts for quantity:

100 sheets 20%
300 sheets 25%
500 sheets ..... 25%—PREPAID

● THERM-O-SET FUZON

Sheets ..... 16″x18″
All gauges ..... 7c per sheet

Discount for quantity:

500 sheets 5%

No Charge for Cut Strips in Any Quality of Gummed Packing Felt

● ● ●

CORK MOLDERS

"AEE" Superior Special $3.00
Extra Hard
"A" Superior 2.75
Hard
"B" Metropolitan 2.50
Medium

Discounts for quantity:

Lots of 4 ..... 5%
Lots of 25 ..... 10%
Lots of 50 ..... 20%—PREPAID

NEW APS SPECIAL CORK MOLDER

20″x24″x¼″ ..... $1.90 each
21″x25″x¼″ ..... 2.00 each
22″x26″x¼″ ..... 2.10 each
24″x28″x¼″ ..... 2.25 each

Discounts for quantity:

Lots of 6 ..... 5%
Lots of 12 ..... 10%
Lots of 25 ..... 25%
Lots of 35 ..... 35%—PREPAID

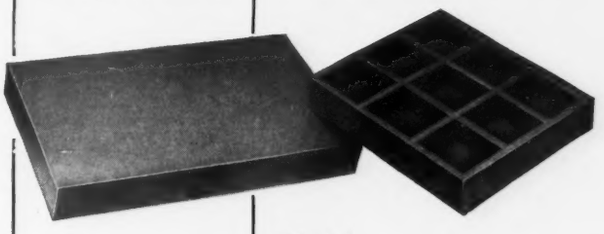
●

Write Us for Free Working Samples or Trial Shipments

American Publishers Supply
Box 131 **W. Lynn, Mass.**

The word is

NO LOST MINUTES **"SPEED"**



When you use

Challenge "Sta-Rite"
NEWSPAPER BASES

★ Cut time and labor costs . . . speed up the handling of unmounted electros, half-tones and zincs for stereotyping. Simply put Challenge Newspaper Bases in the form — lay the plates on top — and you're ready to "put the paper to bed." No hooks — no catches necessary to hold plates in place.

"Sta-Rite" Bases are made from fine-grained steel alloy castings with utmost precision. They come in solid or cored bases — will not dent or bruise — and withstand tight locking and intense heat. They are accurate, rigid — will not "give" or sag under pressure — non-shrinkable, and are a permanent addition to the equipment of any shop.

Inquire into the advantages of these bases and send for prices and sizes at once. Also investigate the Challenge Newspaper Base Cabinet — a time and labor-saver for the make-up man. Write today!

THE CHALLENGE MACHINERY CO.

GRAND HAVEN, MICH. S-176

CHICAGO NEW YORK

Markup

(*Continued from Page 4*)

added, were responsible in some measure for the present system, according to Mr. Schoedler. Having tried various systems using symbols, he found that as more type was added the marking symbols grew longer and the space for marking seemed to grow smaller.

At the time the Tampa *Daily Times* went to Ludlow composition for most of its display, Mr. Schoedler, who selected the display type, decided to install the nucleus of the system now in use. Since then he has made numerous improvements.

At first glance the system might appear complex, but just the reverse is true, once the principle is fully understood.

The first thing to remember, Mr. Schoedler said, is that the whole system pivots on the principle that a single number designates both *face of type* and the *point-size*.

Here is how it is done.

First, place each series of type in the Ludlow cabinets in a separate group of ten, such as the twenties, thirties, forties, fifties, etc. Following are the type groups of ten to be found at the Tampa *Times*, which uses fifteen series of type, totalling to the 150's. These numbers indicate the face of the type when marked on advertising copy.

1— 9—TEMPO HEAVY
11— 19—TEMPO BOLD
21— 29—CHELT. BOLD ITAL
31— 39—TEMPO LIGHT
41— 49—GOTHIC COND.
51— 59—CASLON LIGHT
61— 69—CASLON BOLD
71— 79—CASLON ITALIC
81— 89—COOPER BOLD
91— 99—COOPER ITALIC
101—109—BODONI ITALIC
111—119—CASLON COND.
121—129—GOUDY BOLD
131—139—CHELT. BOLD
141—149—CHELT. MED. COND.
151—159—CHELT. EX. COND.

Thus in marking, 1 to 9, the *Times* designates Tempo Heavy, 31 to 39 designates Tempo Light, 71 to 79 Caslon Italics, 121 to 129 Goudy Bold, 151 to 159 Chelt Extra Condensed, etc., as indicated in the table above.

Second, indicate point sizes by these numbers:

2—14 pt.
3—18 pt.
4—24 pt.
5—30 pt.
6—36 pt.
7—42 pt.
8—48 pt.
9—60 pt.
0—Can be used for 72 pt.

These numbers never change. No. 2 always, as end number regardless of number of digits, means 14 point, 3 means 18 point, 4 means 24 point, and so on from 2 to 9.

Thus, 2 is 14 point Tempo Heavy, 12 is 14 point Tempo Bold, 22 is Chelt Italics 14 point, etc., up to 152 which is 14 point, Chelt. Extra Condensed. In the same manner 3, 13, 23 up to 153 are 18 point of these same faces. This is carried out with all the end numbers from 2 to 9, each one representing a separate point size from 14 to 60 point, inclusive. This can be extended to cover 72 point by the use of 0.

As the number of type faces are increased, the numbers will become larger. For instance, at the *Times*, the first series is 1-9, Tempo Heavy and the last series is 151-159. Additional type faces may be allotted to groups of ten indefinitely.

To facilitate the finding of proper cases at a glance, the Ludlow type cases may be marked as they are at the *Times*, with the name of the face, the size and the markup number.

However, marking the cases is not essential to the perfect working of the one-number system. To use the system from memory the Ludlow operator needs to memorize only the *series of type* each group of ten figures represents and the end figures which represent the *point sizes*.

Mr. Schoedler said he had carefully observed the reaction of Ludlow operators to the system. After using it for fifteen years he believes any Ludlow operator can learn it thoroughly in a few hours. He finds that printers and operators like the system, both for simplicity and accuracy.

Two-color pencil markup is used on the *Times* ad copy. All Ludlow is marked with blue pencil and the Linotype composition in red. The Ludlow operator easily separates his work from other composition by following the blue marks.

Rex, By Intertype

Rex, a new text face recommended for magazine and newspaper work, is being introduced by Intertype Corporation. This

This paragraph is set in 10 point Rex with Bold, a new Intertype face, suitable for both magazine and newspaper text. Other sizes from 5 to 14 point are in process

new type face will be duplexed with bold and will be made in a variety of sizes ranging from 5 to 14 point. The 10 point size is shown above.

Smith Joins Challenge

M. E. Smith has joined the service personnel of Challenge Machinery Company at Grand Haven, Michigan. For several years Mr. Smith was business manager of the Chicago School of Printing. In 1930 he left Chicago to take charge of the plant of Chas. M. Leake Co., printers, in Paducah, Kentucky. Returning to Chicago in 1937 he added a knowledge of book publishing methods to his experience by acting as assistant production manager of the Consolidated Book Publishers, Inc., a subsidiary of The Cuneo Press.

Paper

(*Continued from Page 13*)

oil. The drying is accomplished by driving off the solvent from the printed matter, using gas or steam as the source of heat. Somewhat similar inks are made for flatbed presses, but as the sheets cannot be controlled like a web, the drying speed is much slower. The major use of such inks is so far in the web press field. Their use is claimed to result in equally good printing on both sides, due to the elimination of the "smut roll," and to the fact that the first impression is dry before the second is printed. They are also claimed to give better and cleaner printing than oil inks. There is stated to be a saving due to increased production, caused partly by elimination of the smut roll and its cost as well as time consumed in changing it. The printed matter can be taken directly to the bindery from the press without an interval for drying, which is an advantage in meeting mailing schedules. On the other hand, to counterbalance the savings there is excess waste, and more time is required to web up the press after a break. The principal additional expense, however, is the cost of the operation of the heating equipment. Regardless of the advantages or disadvantages of this kind of ink it is apparently with us to stay, and the requirements of paper on which it is to be used must therefore be determined.

Requirements for Heat-Set Inks

Mechanically, these requirements are the same, except they are more rigid than when oil-base inks are used on the same presses. Splices should be heat-proof, to insure that they will not let go in the heating chambers or on the heated drums used for drying the ink. The printing smoothness requirements are no different than with other inks, and as a rule the surface strength of the paper can be less, as the inks have very little tack.

VULCAN PRESS BLANKETS and INKING ROLLERS

FELT BLANKETS

Felt Blankets can be furnished regular or with polished surface (No. 73). Both types are highly resilient, uniform in thickness, free from bolstering and ghosting and very durable.

NON-FELT BLANKETS

Non-Felt Blankets are available, too, with an oilproof polished surface. These blankets are especially good for pictures and solid blacks.

E. D. BLANKETS

These blankets also are very good for picture pages. They are used by one of the leading tabloids.

DRAW SHEETS

Vulcan Draw Sheets can be furnished regular or with polished surface. Can be used with various cylinder packings but are specially recommended for use with Vulcan Cork and Laminated Underpackings.

LAMINATED UNDERPACKING (No. 62)

For newspapers which prefer a rubber-like underpacking. Soft, resilient, and durable.

CORK (No. 76) UNDERPACKING

Used with felt and non-felt blankets and in draw sheet combinations. Does not crack or dry out and become hard.

VULCOLASTIC ROLLERS

Much softer than rubber rollers, Vulcolastic Rollers work best at a very light setting. They are entirely unaffected by inks, driers, temperature changes, etc. Vulcolastic Rollers forestall operating troubles and promote better distribution and better presswork.

VULCAN PROOFING COMPANY
58th St. and First Ave., Brooklyn, N. Y.
608 S. Dearborn St., Chicago
SALES REPRESENTATIVES IN PRINCIPAL CITIES

Machine will be on display at New York Sales Office, 295 Lafayette Street, after December 1st.

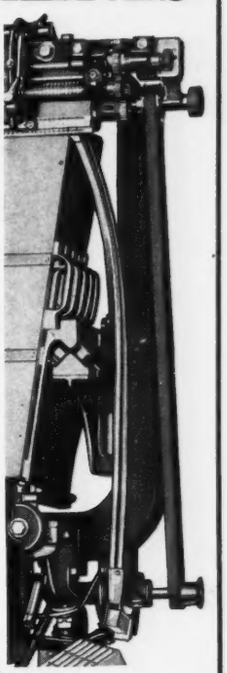
SHIFT MAGAZINES in LESS than TWO SECONDS

•

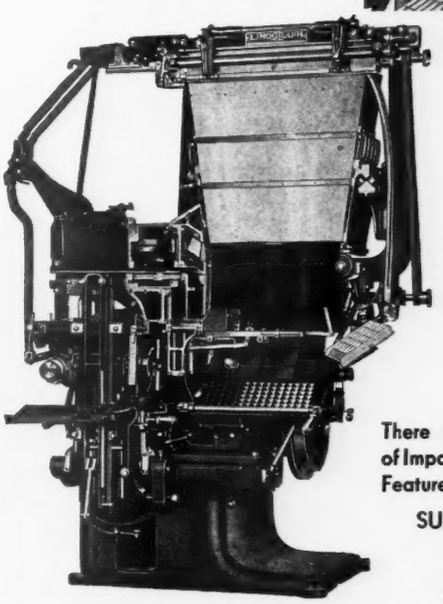
SHIFT from No. 1 to No. 5 Magazine in LESS than FOUR SECONDS

•

MODEL 50
LINOGRAPH



offers the latest, most simple and positive Shift—no cranking up or down. Magazine Cradle slides back and forth on ball bearing rollers with Finger-Tip Shift Control.



There are dozens of Important Value Features

SUCH AS

TWO-IN-ONE DISTRIBUTOR—2-Pitch or 4-Pitch • DISTRIBUTOR CLUTCH—Most simple yet devised • UNIVERSAL EJECTOR—Sectional Blades • STANDARD MATS—Also 2-letter display mats • UP TO REGULAR 24 PT. DISPLAY —Out of 90 Channel Magazine.

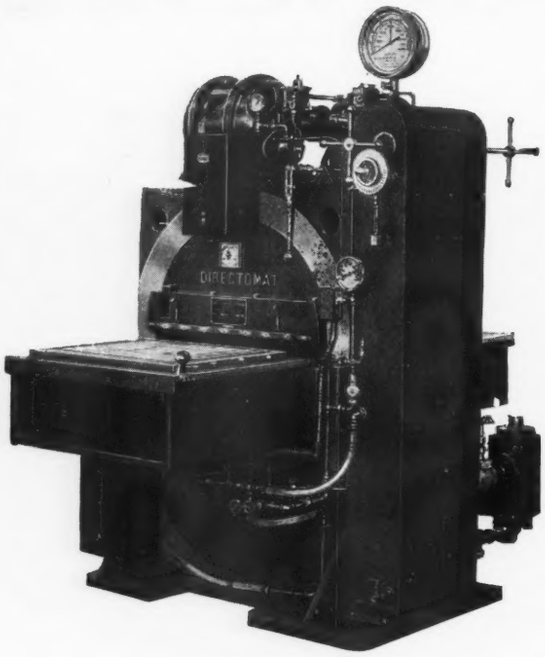
Write TODAY for Complete CATALOG

LINOGRAPH CORPORATION, Davenport, Iowa

Gentlemen: Please send us your complete, illustrated Linograph "50" Catalog.

Name.....By.....
(Title)

City.....State.....



Here is the Secret
of LAKE ERIE
DIRECTOMAT SPEED . . . .

1. The DIRECTOMAT produces better mats twice as fast as old methods.
2. The DIRECTOMAT permits instant and positive adjustment of moulding pressure—eliminating guesswork and make-overs.
3. The DIRECTOMAT saves composition time and cost due to less wear on standing type such as Want Ad pages, standing heads, etc.
4. The DIRECTOMAT is easy to operate from either side. Anti-friction bearings on work table save time and effort.

Lake Erie Stereotype Equipment Corp.
Buffalo, N. Y.

Please mail complete information on DIRECTOMAT performance and economies to my personal attention.

NAME..... TITLE.....

CONCERN .....

STREET .....

CITY .....

However, at high press speeds this must be considered.

The ink receptivity of paper for use with heat-set inks is still the subject of widely varying opinions. One school of thought, headed by one of the pioneers among the manufacturers of these inks claims that the best paper is one that is as ink resistant as possible. On the other hand, one of the largest printers in this country, who uses a considerable quantity of ink made by this same manufacturer, states that the most ink receptive sheet is the best. Actually, the truth as to the most desirable ink receptivity is determined by the character of the printing, the speed of the press, and the extent of the drying facilities.

It is obvious that a completely ink resistant paper would be unsatisfactory for use with such inks, as they have but little tack, and must depend on the paper taking the ink off the plates by somewhat of a blotting action. If the paper were completely ink resistant there is no reason to expect that the inks would transfer from the plates to the paper at the time of impression. Unless there is some absorption of the ink, it will not dry at high press speeds even when the heating equipment is increased. It seems plausible to believe that the requirements of one plant may be different from those of another, depending to a considerable extent on the amount of heating given the printed matter and to the press speeds.

Requirements for Gloss Inks

Gloss inks are another rather recent development to come into favor. At first they were used principally on label work, but they are now seen on magazine covers, and in some cases in four-color advertising jobs. For years ink makers have known how to make gloss inks, but there was no demand for them as the printed sheets stuck together, and at the best resulted in considerable offset. The development of the non-offset sprays opened the way for commercial use of gloss inks, and most ink makers now carry them in stock. This type of ink calls for paper of certain definite characteristics if the best results are to be obtained. There is still some difference of opinion as to the relative value of some of the characteristics. There is general agreement, however, that the paper must meet the requirements for 4-color wet process printing, and in some things, such as surface strength and density, must meet considerably higher tests. A printing smoothness and gloss comparable to a good A grade super are naturally required. The formation is important, as nonuniformity in this respect causes the ink to dry unevenly, because it soaks more into the sheet in open places in the formation. This results in a broken film of ink, and poor gloss in the finished job. The paper must have sufficient ink receptivity to pick the tacky ink off the plate, but should not be receptive enough to permit it to soak into the sheet before it sets.

The foregoing discussion deals more with letterpress than with offset or rotogravure. However, the same principles are involved in the evaluation of paper for either of these processes. The relative importance of the various characteristics naturally will vary according to the kind of printing, but as in letterpress the respective values can be determined by proper correlation of technical tests with pressroom performance.

SEND YOUR TRIAL ORDER TODAY
SUPER STERE-O-CORK
MOLDING BLANKETS — 5/16 AND 3/8" GAUGES
COYNE & PADDOCK, INC.
48-15 32nd PLACE LONG ISLAND CITY, N. Y.

WAIT MISTER!

You'll get better results with

WOOD MATS

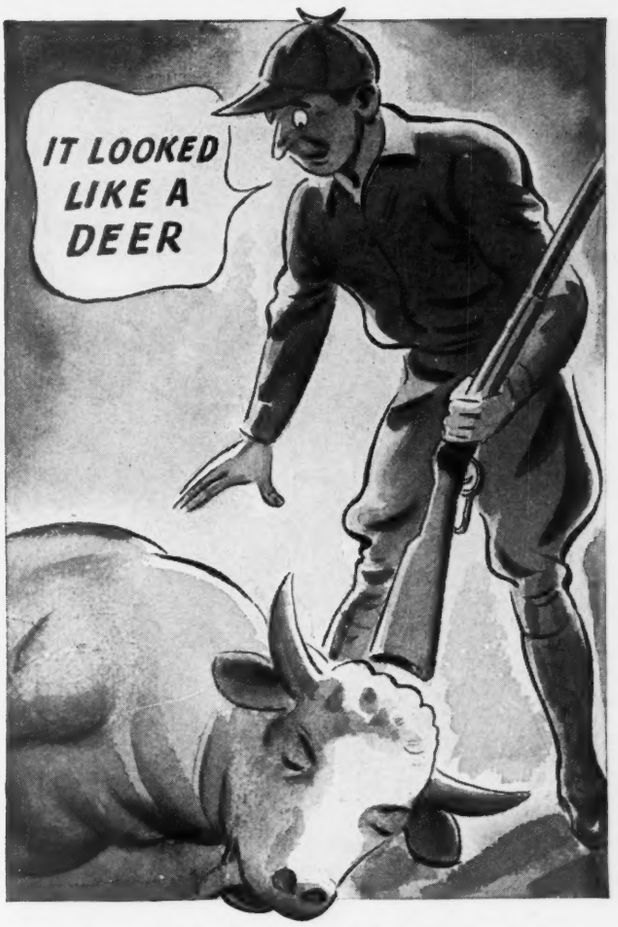
Want to hold detail, tricky middletones, solid blacks, white whites? Want to get clean casts from perfect molds? Want a mat that shrinks evenly, releases easily and scorches quickly?

ASK FOR A SAMPLE LOT
OF WOOD DRY MATS

The Favorite of Stereotypers Everywhere

WOOD FLONG CORPORATION
HOOSICK FALLS, NEW YORK

FAMOUS *Bad* GUESSES



● You may think your metal *looks* all right—but why not be sure? You can be positive about the condition of your metal if you use a dependable method of metal control. Proper control, such as Imperial's Plus Plan, keeps your metal in balance. To maintain this balance, under the Plus Plan, tin and antimony are added in exact amounts to replace the quantities lost in dross.

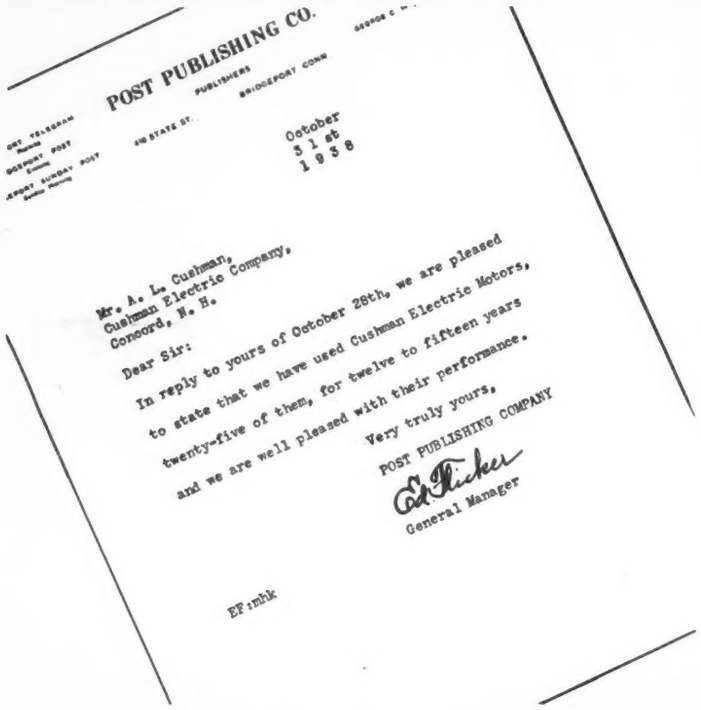
Printing plants by the thousands throughout the country that rely on the Imperial Plus Plan for metal control, benefit from minimum casting temperatures, low dross losses and lower yearly metal costs. Customers and readers appreciate the sharp, clear faces and cleaner impressions that accompany the other advantages.

Choose the Plus Plan for your shop—stop guessing about the condition of your type metal—worry less with Imperial. Write for complete details.

IMPERIAL TYPE METAL COMPANY
PHILADELPHIA • NEW YORK • CHICAGO • LOS ANGELES

Imperial
TAKES THE GUESS OUT OF TYPE METAL

Used 25 Cushman Motors for 15 years



POST PUBLISHING CO.

PUBLISHERS

BRIDGEPORT, CONN.

October 31 st 1938

Mr. A. L. Cushman,
Cushman Electric Company,
Concord, N. H.

Dear Sir:

In reply to yours of October 28th, we are pleased to state that we have used Cushman Electric Motors, twenty-five of them, for twelve to fifteen years and we are well pleased with their performance.

Very truly yours,
POST PUBLISHING COMPANY
Ed Tucker
General Manager

EF:mhk

and we are well pleased with performance, says the *Post Publishing Co., of Bridgeport, Conn.* Yes, Cushman Motor users everywhere are well pleased with their excellent, dependable service.

These motors will drive your line-composing machines at their maximum capacities—with less operating costs. Why not try them in your plant? Send for one on trial —or write today for further information and literature.

Cushman Electric Company

69 South Main Street **Concord, N. H.**

Set Up Your Own P-Double-E Filing System—See Page 12

Truck

Method of handling newsprint enables paper to store and deliver rolls to press in minimum time

By LESLIE J. GRINER*

AFTER having operated in our new plant for a little more than one and a half years, one of the most profitable investments made in the new machinery used in our modern newspaper plant is an electric paper-handling truck. When plans were made for our new building, we wondered if some less laborious method of handling paper in our own storage space could be found. After looking over the various methods of storing and handling paper we decided it was to our advantage to change our method.

In trying to store the maximum amount of paper in the available storage space we found that a great amount of space was lost to us because of the columns supporting the building, these being about 40 in. diam. With the electric truck, however, we were able to stand the rolls of paper on end and take advantage of the space behind the columns. We are now using every inch of floor space in our basement for the storage of rolls and since we store the full rolls on end with a second row of full rolls horizontally on top of the rolls stored on end, we are able to use all the storage space up to within 2 in. of the ceiling.

Three-quarter rolls are stored on end with a row of half or 34 in. rolls horizontally on top of the three-quarter or 51 in. rolls. Half or 34 in. rolls are stored three high on end, thus giving us what we believe to be the very maximum amount of storage possible. Our rolls of paper have been increased from 1550 lbs. to 2000 lbs. in the 68 in. size, 1150 lbs. to 1500 lbs. for the 51 in. size, and from 750 lbs. to 1000 lbs. in the 34 in. size. Increasing the weight of the rolls, of course, makes no difference with the ease of handling in the paper storage room, as the operator of the truck controls the raising, lowering, or upending with no more effort than that of shifting gears in an automobile.

From the economy angle, an interesting point is that although all our paper is placed in and taken out of storage with this truck, we have not had a roll damaged in storage, this experience being quite different than when we used dollies and occasionally had a roll bumped by running into a column or wall. We deliver all paper from storage to the press by electric truck, the operator being able to make a round trip in about 3 min. We have stored a full carload (40 rolls) in 2 hrs.

With the exception of regular maintenance, greasing and cleaning, we have not experienced any expense in either parts or labor in the 18 months the truck has been in operation.

By means of this electric truck which is used in the plant of the Youngstown (O.) Vindicator, it is possible to pick up a roll of newsprint either from a vertical or horizontal position and deposit it in either one of two positions. At the right side of the picture it will be seen that rolls have been placed horizontally upon the first tier of rolls stored in a vertical position.

*Mechanical Superintendent, Youngstown (O.) Vindicator.

MACHINE REBUILDING

vs.

NEW MACHINE PURCHASE

Typesetting machines (Linotypes and Intertypes) wear out in time, and it often becomes a moot question as to whether they should be rebuilt or replaced with new equipment.

Where the **scope** of work required is beyond the capacity of the old machine, acquisition of a **later** model may be the proper solution. When, however, it is primarily desired to improve the **quality** of output or **increase production** or **reduce maintenance costs**—a thorough rebuilding of old equipment will prove extremely economical.

Particularly if full use is made of our services.

Remember that the frame-work and many other parts of these machines are but slightly worn. Wearing parts can be replaced—many of them with Star improved parts—which will have the effect of modernizing the machine. Not only will these long tested units give more efficient service, but they will in most cases cut down on replacement costs, as well.

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Patents

Recently Granted by U. S. Patent Office

Bookbinding:

2,136,773. BOOKBINDING MACHINE. Atto N. Hanna, Newark, N. J., assignor to Parallex Corporation, Newark, N. J., a corporation of New Jersey. Application March 4, 1937, Serial No. 128,921. 12 Claims. (Cl. 11—1.)

3. A book binding machine embodying a shelf adapted to receive the collated leaves of a book, the leaves having a sequence of spaced openings adjacent one edge, and a spirally wound wire engaged with some of the openings at one end of the leaves, a roller having a substantially continuous surface circumferentially and longitudinally spaced above and from one edge of the shelf in clutching relation with the coils of the wire about their horizontal diameter, means for rotating the roller, whereby the wire will be rotated with the roller and succeeding portions thereof will be progressively brought within the influence of the roller, a pressure bar movable toward and from the shelf and engageable with collated leaves adjacent the openings, whereby lifting of the leaves except adjacent the coil is prevented, and means for actuating the presser bar during the feeding of leaves in relation to the roller.

Composing Machines:

2,134,668. SECOND ELEVATOR FOR TYPOGRAPHICAL MACHINES. Clay E. Murray, Davenport, Iowa, assignor to Linograph Corporation, Davenport, Iowa, a corporation of Delaware. Application August 12, 1937, Serial No. 159,334. 12 Claims. (Cl. 199—37.)

1. In a typographical machine, a support, a matrix elevator pivotally mounted thereon, the elevator comprisprising a pair of individually pivoted arms mounted on the support for united or separate swinging motion in a substantially vertical plane, the head having fingers projecting therefrom and pivotally connected to the free ends of the individually pivoted arms, the upper one of the pair of arms having a crank arm whereby force may be applied to cause it to turn about its pivotal connection to the support, the pivotal connection of the upper arm to the fingers being such as to normally cause the head to swing with the upper arm but such as will permit the head and arm to separate if the head becomes locked in any manner and unable to swing with the arm.

2,135,748. TYPOGRAPHICAL COMPOSING MACHINE. Frank C. Frolander, Elizabeth, N. J., assignor to Mergenthaler Linotype Company, a corporation of New York. Application January 22, 1938, Serial No. 186,352. 20 Claims. (Cl. 199—16.)

1. A typographical composing machine adapted to be equipped with a plurality of differently channeled magazines capable of being grouped in various relative positions and including, in combination, means for rendering any selected magazine operative for the release of matrices therefrom, key-controlled mechanism for releasing the matrices from the magazines for composition and including two trains of connections selectively operable according to the channeling in the magazines, and means adjustable in accordance with the grouping of the magazines for automatically selecting the appropriate train of connections for use with the operative magazine.

2,136,048. DUAL MAGAZINE CONTROL. Maurus T. Goetz, Chicago, Ill., assignor, by mesne assignments, to Teletypesetter Corporation, a corporation of Delaware. Application December 30, 1935, Serial No. 56,608. 18 Claims. (Cl. 199—19.)

1. In an automatic control device, signal presenting means, selector means responsive to presented signals, means controlled by the selector means for interrupting the signal presenting means, means also controlled by the selector means for initiating operations, and means controlled by the operation initiating means for re-starting the signal presenting means after various intervals depending upon the nature of presented signals.

Feeding, Folding, Delivery:

2,131,967. SHEET FEEDING MECHANISM. Anthony F. Peropat, Brooklyn, N. Y., assignor to S. & S. Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y., a Corporation of New York. Application November 16, 1937, Serial No. 174,836. 8 Claims. (Cl. 271—44.)

1. A sheet feeding mechanism comprising a hopper for carrying a stack of sheets and means for feeding a sheet of the stack at a substantially continuous rate including a kicker bar for coacting with an edge of the sheet, a rack member securable to the kicker bar, and means for motivating the rack member at a continuous rate in the feeding direction comprising a completely rotated segment gear having teeth cyclically coacting with the rack and a surface portion for initially motivating the rack member in the feeding direction before the teeth coact, the gear being disengaged from the rack during the return portion of the cycle.

20,912. ROLL CHANGER FOR PRINTING PRESSES. Bruce C. White, deceased, late of New York, N. Y., by Irving Trust Company, New York, N. Y., trustee for and assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Original No. 1,855,503, dated April 26, 1932, Serial No. 646,592, June 20, 1923. Application for reissue April 4, 1934, Serial No. 719,061. 61 Claims. (Cl. 242—58.)

59. In a roll changer for a printing press, a rotary holder for mounting a plurality of rolls of paper in a manner to permit them to freely rotate about their axes, a belt engaging the periphery of the roll for starting and speeding up a fresh roll of paper carried by the holder, preparatory to joining the web of the fresh roll to a web running from an exhausting roll carried by the holder and before the fresh roll is in contact with the running web, and mechanism for joining the webs and for severing the web of the exhausting roll; the belt being adapted to control the tension on a web running from the fresh roll after a join is made.

2,133,726. SHEET FEEDER. Edwin G. Staude, Minneapolis, Minn. Application October 22, 1934, Serial No. 749,439. 30 Claims. (Cl. 271—39.)

1. A sheet feeding mechanism, having a feeding wheel having a friction feeding surface, feed retard means in feeding relation with the feeding wheel, a moving conveyor for supplying sheets to the feeding wheel in overlapped relation, and means including a reciprocatory ratchet mechanism, including a part located near the end of the sheet to be fed and acting to loosen the sheet and adapted to start and stop the conveyor conformably to feeding requirement.

2,134,532. DELIVERY MECHANISM FOR USE WITH PRINTING MACHINES. Cecil George Quick, Donald Arthur Ball, and William Arnold Whitehead, London, England, assignors to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 21, 1935, Serial No. 55,519½. In Great Britain December 21, 1934. 20 Claims. (Cl. 271—80.)

1. In combination, a delivery fly, an endless conveyor spaced from the fly, means rotating the fly, means to cause the conveyor to move past the fly in position to have the products carried by the fly discharged thereon, and means having yielding properties acting upon at least a part of the conveyor to continuously urge it into position adjacent the fly, the urging means due to its yielding properties, allowing the conveyor part to be temporarily further spaced from the fly by an excess of products passing therebetween.

2,136,278. WEB ASSEMBLING MEANS FOR PRINTING PRESSES. Edmund W. Dean, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich., a corporation of Michigan. Application April 19, 1937, Serial No. 137,857. 8 Claims. (Cl. 270—5.)

1. In a newspaper printing press having a plurality of printing units and a folder arranged in line; web deflecting means adjustable longitudinally of the press whereby a web from one unit may be diverted from its normal path and returned to the path of a web from another unit and associated therewith prior to folding.

Miscellaneous:

2,132,468. PRINTING INKS. Archibald Alwyn Harrison and Stephen Hellicar Oakeshott, Blackley, Manchester, England, assignors to Imperial Chemical Industries Limited, a corporation of Great Britain. No Drawing. Application July 30, 1934, Serial No. 737,672. In Great Britain August 3, 1933. 6 Claims. (Cl. 134—35.)

3. A quick-drying, non-penetrating spirit printing ink containing the combination of a spirit solvent, an alkyl cellulose, and a spirit-soluble dye within the approximate ratios of solvent to alkyl cellulose of 90 to 1 and 7 to 1, and of solvent to dye of 50 to 1 and 10 to 1.

2,132,635. METHOD OF SCREEN PROCESS PRINTING. Nathan Louft, Silver Spring, Md. Original application July 20, 1935, Serial No. 736,270. Patent No. 2,052,933, dated September 1, 1936. Divided and this application June 26, 1936, Serial No. 87,574. 6 Claims. (Cl. 41—38.5.)

1. A method of reproducing designs, such as signs, pictures, etc., by placing a transparent film, coated on one side with wax and the other side with glue over the design that is to be reproduced, affixing wax side of the film to the design and cutting away selected portions of the design through the film, then by placing a damp or moistened screen over the film and the design and applying heat over the screen to cause glue side of the film to adhere to the screen and at the same time causing the film to release from the design, then by placing the screen over a suitable material on which the design is to be reproduced and forcing paint through the screen for reproduction.

2,133,801. PROCESS FOR SHAPING AND PRINTING CARDBOARD BLANKS FOR THE MANUFACTURE OF BOXES AND MACHINE FOR THE WORKING OF SAID PROCESS. Henri Bobst, Lausanne, Switzerland. Application November 5, 1936, Serial No. 109,266. In Switzerland November 6, 1935. 3 Claims. (Cl. 93—58.)

1. Process for shaping and imprinting blanks intended for the manufacture of boxes, consisting in shaping blanks fed from a continuous strip of material, gripping the free end of the shaped strip by its assembly flaps in the direction of the feed line, cutting the blank and feeding same to a printing device and imprinting one face of the blank while the latter is securely held in the gripping relationship.

2,133,802. APPARATUS FOR CALCULATING THE SPACING OF TYPE FOR PRINTED MATTER. James D. Bolongaro, Charlottesville, Va. Application November 27, 1934, Serial No. 754,971. 9 Claims. (Cl. 235—61.)

1. In a machine for printing on a surface characters of a predetermined type in lines of predetermined length, the combination with mechanism for advancing the surface through character space distances during the printing operation of the machine, of means controlled by such mechanism and arranged to move through unit distances as the surface is advanced through the character space distances in the printing operation of the machine, translating mechanism connected to the first named means and operable to translate the unit movements of the first named means during the advancing movements of the mechanism into the number of lines which the matter being printed will occupy in a different medium having predetermined lines of a different type and length than the lines of characters being printed, means operable to modify the action of the translating mechanism to include in such line count the spacings which will appear in the different medium after paragraph endings of such matter, means intermediate the first mentioned mechanism and the translating mechanism for enabling the latter to be actuated by the modifying means while the surface is at rest, and a counting mechanism operatively connected to the translating mechanism and the modifying means and arranged to register the number of lines of the different type.

2,134,310. SHEET CUTTING AND PANELING MACHINE. Leigh J. McGrath, San Mateo, Calif., assignor to Zellerbach Paper Company, San Francisco, Calif., a corporation of Nevada. Application October 1, 1935, Serial No. 43,043. 3 Claims. (Cl. 164—43.)

1. In a machine, a stationary elongated cutting blade and a cooperating movable blade, each blade consisting of two sections positioned end to end to assume an angle with relation to each other in a longitudinal direction so that when the movable blade approaches the stationary blade the cutting operation will be from the center and outwardly.

2,136,985. SCREEN STENCILING COMPOSITION. Glee R. Stocker, St. Louis, Mo. Application May 21, 1936, Serial No. 81,095. 2 Claims. (Cl. 134—35.)

1. In the art of screen stenciling for reproduction, a composition possessing non-clogging, non-cracking, non-chipping, slow-drying and flexible characteristics, consisting of glue, glycerine, and a water color paint in the proportion of five parts of glue, one part of glycerine and from one to four parts of the water color paint.

2,133,981. PRINTING ELEMENT AND METHOD OF MAKING AND USING SAME. Philip A. Frazier, Oak Park, Ill., assignor to Frazier Processes Incorporated, New York, N. Y., a corporation of New York. Application March 29, 1935, Serial No. 13,629. 12 Claims. (Cl. 101—401.1.)

1. The method of mounting a relatively thin shell-like printing element, which consists in applying a resilient backing to the element and then hardening the backing opposite various localized areas of the element to a relatively greater degree than opposite the remaining areas.

Plate Making:

2,131,323. METHOD AND MEANS FOR COMPOSING RELIEF PRINTING PLATES. William C. Huebner, New York, N. Y. Application August 9, 1937, Serial No. 158,088. 8 Claims. (Cl. 101—401.1.)

1. The herein described process of preparing a composed relief press plate which includes: preparing a relief printing plate temporarily securing the prepared relief printing plate to a carrier with the relief side of the printing plate against the carrier; then placing the back side of the relief printing plate, while still temporarily secured to the carrier, in contact with a press plate and permanently securing the relief printing plate to the press plate; and then removing the carrier from the relief printing plate to leave the relief surface thereof available for inking and printing when the press plate is in a press.

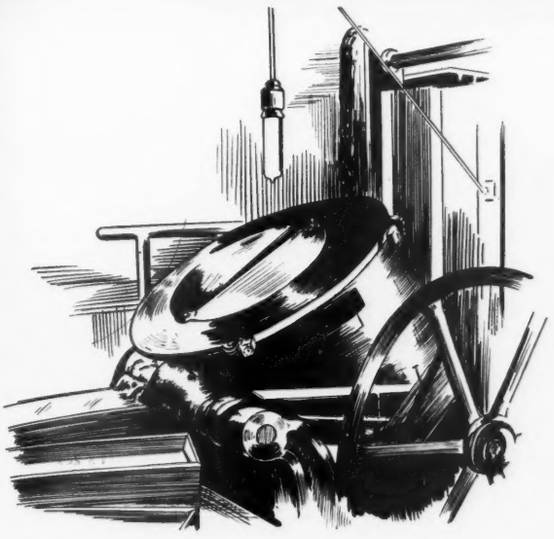
2,131,359. METHOD OF PUNCHING MULTICOLOR PRINTING PLATES. Otto Seffzig, Berlin, Germany. Application November 2, 1937, Serial No. 172,432. In Germany October 21, 1936. 1 Claim (Cl. 164—125.)

A method for enabling the fitting insertion of the individual galvanic deposits of colored etchings necessary for a multi-colored printing into round casting apparatus for back casting of the deposits, and in which fitting crossed lines are formed on the deposits, the method consisting of perforating the fitting crossed lines on the deposits at the points of intersection of the crossed lines and using the perforations as stationary points and then producing larger holes in the deposits at other points for hanging up the deposits in the round casting apparatus.

2,132,443. PLANOGRAPHIC PLATE AND METHOD. Francis L. Simons, Needham, Mass. No Drawing. Application August 24, 1936, Serial No. 97,599. 15 Claims. (Cl. 41—41.5.)

Patent Papers

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C., and enclose 10 cents for each patent paper wanted.



Out of the Electric Induction Furnace Came Two Wonderful Metals

BACK in 1928 (remember?) when many people were taking a lot of things for granted, the Atlantic Zinc Works decided that engravers were taking too much grief for granted in the form of undependable and uncertain zinc plates. This company went to work to solve the problem. First they worked out a highly satisfactory metal formula. Second, they developed a furnace for melting and casting this metal which would assure perfect blending. Out of this electric induction furnace came the popular Zomo Electric Zinc and A-Z Alloy . . . If this is news to you, it will pay you to investigate the advantages which these metals offer.

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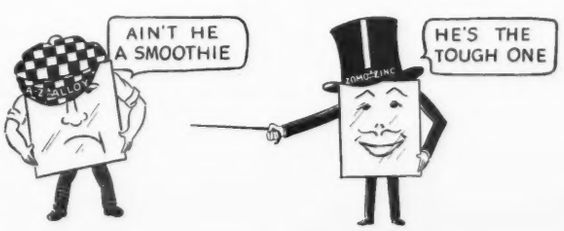

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Booth's Zink Cut Cement lends itself to the mounting of cuts so as to maintain true printing levels without deformation of the cut or the printed result. This cement will fasten zinc etchings, copper halftones, electros, stereo shell casts and plastic cuts to wood or metal base. Holds with the grip of a tiger's paw.

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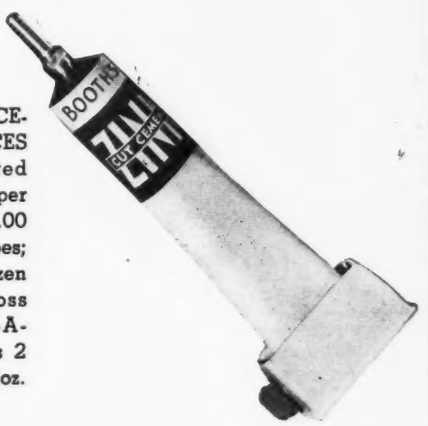

ZINK CUT CEMENT PRICES in the United States: 75c per largetube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots. Stand-A-Lone Holders 2 for 25c, per doz. $1.00.

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From end to end in line composing machine, keyboard rubber rolls is an important thing. Long lasting resiliency is another. So is the inside diameter of the roll in relation to the roll shaft on which it is mounted. Booth's Green Rubber Keyboard Rolls meet all of these requirements. Trial pair $1.30; dozen $7.00. U. S. only.

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1. A lithograph plate comprising a backing sheet composed of paper which is non-stretching when subjected to the lithographing process, the paper coated with a flexible base coating firmly adhering thereto, and a surface film of precipitated silica over the base coating.

2,131,891. PRINTING PLATE. William F. Huck, Richmond Hill, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Original application December 31, 1934, Serial No. 759,983. Divided and this application August 21, 1937, Serial No. 160,327. 10 Claims. (Cl. 101—395.)

1. As an article of manufacture, a semi-cylindrical printing plate having reduced projections extending circumferentially from the straight edges thereof, and shoulders formed on the inner face of the printing plate immediately adjacent the projections.

2,136,176. PHOTOENGRAVING. John M. Hammond, Washington, D. C., assignor to The Varnish Products Company, Cleveland, Ohio, a corporation of Ohio. No Drawing. Application October 30, 1937, Serial No. 172,054. 9 Claims. (Cl. 41—33.)

4. The method of stripping a photographic negative having an image-bearing layer of nitrocellulose which is superimposed upon a plate which comprises applying directly on the surface of the negative a coating of solution essentially of cellulose derivative and evaporable solvent which solution does not detrimentally affect the layer of nitrocellulose and image, evaporating the solvent, and thereby depositing on the negative, without detrimentally affecting the nitrocellulose layer and image, an adherent stripping film, and then stripping the composite film and negative from the plate.

Printing Presses:

2,131,207. PRINTING PRESS. Edward Wolff, New York, N. Y. Application November 24, 1937, Serial No 176,275. 3 Claims. (Cl. 101—314.)

1. A printing press of the class described comprising a supporting frame, an oscillating platen, an inking roll, a hand lever for operating the platen and roll, a link system coupling the lever with the platen and the inking roll, the link system comprising a crank device operated by the lever, a pivoted link connection between the crank and the platen, a pair of links pivoted one on each side of the frame carrying the inking roll, a pivoted link connection between the platen and each of the inking roll carrying links and a tie bar uniting the latter links together.

2,131,489. SAFETY PLATE-SHEARING DEVICE FOR INK ROLLERS. Burt F. Upham, Pittsburgh, Pa., assignor to Miller Printing Machinery Co., Pittsburgh, Pa., a corporation of Pennsylvania. Application April 21, 1937, Serial No. 138,217. 10 Claims. (Cl. 101—357.)

1. The combination with a printing press having a frame, of an assembly of inking rolls mounted thereon, means on the assembly engageable with an abutment on the frame to lock the assembly relative thereto, the abutment including frangible means adapted to yield on application of an up-thrust to the assembly, and means operated on breakage of the frangible means for stopping the press.

2,132,086. PRINTING APPARATUS. Max Friedrich Scheffler, Munich, Germany. Application February 11, 1938, Serial No. 190,096. In Germany December 28, 1935. 14 Claims. (Cl. 101—175.)

1. A device for producing single and multi-colour copper prints—steel-plate engraving—by means of only one printing comprising a plate cylinder carrying a printing plate upon which all parts of the design are inked in through stencil cylinders, the number of which corresponds to the number of colours, and stencil cylinders in rolling contact with the printing plate, each stencil cylinder containing that part of the design which corresponds to the respective colour.

2,132,827. PRINTING PRESS. Charles A. Meisel, Milton, Mass., assignor to Meisel Press Manufacturing Company, Boston, Mass., a corporation of Massachusetts. Application June 4, 1937, Serial No. 146,464. 5 Claims. (Cl. 270—18.)

1. A press comprising a plurality of web press units arranged in spaced and offset relation on opposite sides of a longitudinal line and delivering inwardly in directions transverse to the line, means comprising turning bars in the space between the units for diverting the webs to longitudinal paths, and means for uniting the webs as they are travelling longitudinally.

2,132,998. TRANSFER APPARATUS FOR PRINTING PRESSES. Paul H. Schulz, Moline, Ill. Application March 14, 1938, Serial No. 195,864. 5 Claims. (Cl. 271—14.)

1. A device of the class described, comprising a table adapted for attachment to the cylinder frame of a printing press, to reciprocate therewith, means for feeding successive sheets of paper to the table, with one edge of each of the sheets in engagement with the gripping devices of a press, jogging devices on the table for uniform arrangement of the sheets, means for actuating the jogging devices, and means for preventing the sheets from curling in their passage over the table.

Consulting Engineering Service

Specializing in the application of air conditioning and refrigeration to the printing field, Harry B. Matzen, formerly Vice President of the Carrier Engineering Corporation, has organized a consulting engineering service with offices at 185 Madison Ave., New York.

S. N. P. A. Conferences

It has been announced by the Committee on Arrangements that the 1939 Eastern Division S.N.P.A. Conference will be held at Hotel Patten, Chattanooga, Tenn., on Monday and Tuesday, September 11 and 12.

The annual S.N.P.A. Mechanical Conference for the Western Division will be held at Skirvin Hotel, Oklahoma City, on Monday and Tuesday, February 20 and 21.

Monotype American Garamond

The Lanston Monotype Machine Company has announced the recent cutting of Monotype American Garamond in several sizes for Monotype machine typesetting. The new face is somewhat heavier, is closer set and has a lower x-height than Monotype Goudy Garamont. As will be noted in the accompanying specimen showing, the "odd" sizes, 7, 9 and 11 pt., are also available. Further information may be obtained from the Lanston Monotype Machine Company direct. *P-Double-E File No. 1G.*

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UNIQUE—No box-tops or reasonable facsimiles are involved in the Third Annual IPI Essay Contest, which is conducted in cooperation with the National Graphic Arts Education Guild. High school entrants must write essays on the Value of Color in Printing. First prize is a $400 college scholarship. Teachers have told us that this competition is unique, for it is a contest where nobody loses. Each student who enters, whether or not he wins a prize, increases his knowledge of color and its applications in the Graphic Arts. It is IPI's hope that this educational project will help to stimulate an interest in fine color printing among the future printers of America.

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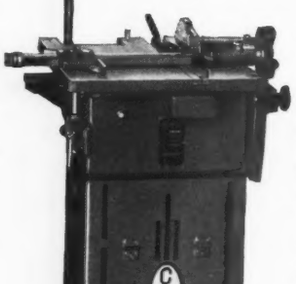

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Plain Dealer Pub. Co., Cleveland, Ohio (5)
Indianapolis Star, Indianapolis, Ind. (2)
Chicago Herald & Examiner, Chicago, Ill. (2)
Journal Times Co., Racine, Wis. (2)
Nashville Banner, Nashville, Tenn. (2)
Springfield Union, Springfield, Mass.
Milwaukee Leader, Milwaukee, Wis.
Grand Rapids Herald, Grand Rapids, Mich.
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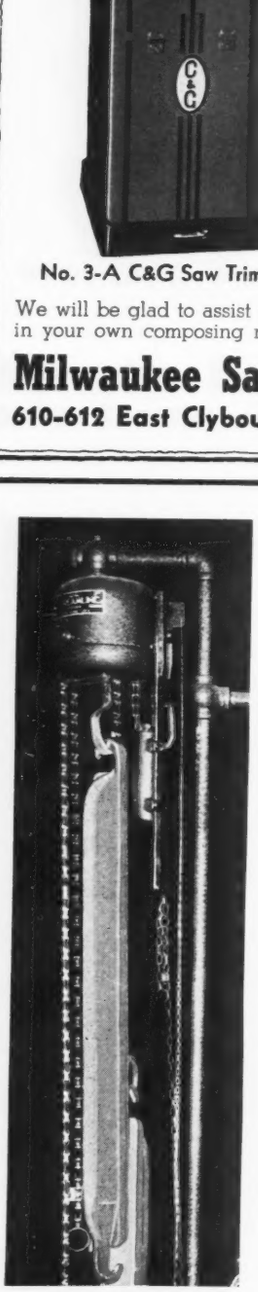

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Technical Literature

MONO FACTS No. 2—Folder published by Lanston Monotype Machine Company, discusses Monotype, matrix faces and the setting of ruled forms from storage. Bodoni faces on the Monotype are shown in careful detail with specimens. *P-Double-E File No. 1G.*

GRAPHIC INSTRUMENTS—*Do Graphic Instruments Belong on Your Payroll?* Small illustrated booklet describes speed recorders and speed indicators for use on printing presses and other instruments used for various purposes. *P-Double-E File No. 8J.*

C&G DELUXE SAW-TRIMMER—Booklet of 8 pages illustrates and describes mechanical features of C&G Deluxe Model Saw-Trimmer. Attachments also discussed. *P-Double-E File No. 1Z.*

TWO BOOKLETS—Two booklets of interest to typographers are being circulated by Intertype Corporation. One is a six-page folder containing suggested machine magazine layouts and is titled "Four-Deck Intertype Magazine Flexibility." The other is a two-color, twenty-four page booklet showing Intertype Cairo. Either, or both may be secured by addressing Intertype Corporation direct or in care of this magazine.

"TURBINAIRE" ETCHING MACHINE—Illustrated folder describes U. S. Stoneware Company's "Turbinaire" Etching Machine. Plan and side diagrams show mechanical arrangement. *P-Double-E File No. 2E6.*

ATF BINDERY CATALOG—Catalog illustrates and describes in detail such bindery equipment as: Stitchers, cutters, paper drills, automatic presses, perforating machines, tables, cabinets, punches, shears and includes all the bindery supplies handled by ATF. *P-Double-E File No. 6.*

CLEVE-O-CEMENT FOLDER—A folder has been issued by the Midland Paint and Varnish Company. Claims are presented for the use of Cleve-O-Cement as a patching material for chipped and rutted cement floors.

Any of these new pieces of literature will be furnished upon request to Printing EQUIPMENT Engineer, *1276 W. Third St., Cleveland, Ohio.*

Tide's Appraisal of ATF-Webendorfer Deal*

IN a Mt. Vernon, N. Y., cinema house one evening last month sat grandfatherly John F. Webendorfer, attentive to sequences of "You Can't Take It With You," bemused by Grandpa Martin Vanderhoff's philosophical simplicities. In his pocket he could figuratively jingle a cool $1,000,000, forked over a few days before by American Type Founders for his Webendorfer-Wills Co., manufacturers of photo-offset presses.

Next day Webendorfer summoned his employees and gave them $250,000. His success, he said, was due to them and "only a jackass would think differently;" he had all he needed, and allowed as how he couldn't take it with him. So to 115 thunderstruck workers, he doled out checks ranging downward from $15,000. Though he'd sold his cramped little factory, generous John F. remained head of it; his taciturn son and spokesman, John B., continues as vice-president.

Newshawks, naturally, liked the yarn; but for the press, at least in part, there lay a deeper significance in the sale—in the web offset presses for newspaper and magazine printing Webendorfer has lately been building.

As everyone knows, American Type Founders smelt and cast tons of type in their Elizabeth, N. J., plant; they're to boot manufacturers of letter presses, other printing equipment. That they've long had a thoughtful eye on the burgeoning $200,000,000 lithographic industry, they don't deny.

Far more importantly, though, American Type Founders wants a slice of the vast, unexploited market for offset presses among small newspapers that hitherto Webendorfer, the inventor and not the entrepreneur, has but scratched. Genial president Thomas Roy Jones gave out that they were moving Webendorfer's letter press machinery to Elizabeth, so the Mt. Vernon plant could be used entirely for offset presses. Soon as production justifies, said he—perhaps in six months—advertising and promotion will start.

Lithography sales—variously estimated at $150,000,000 to $200,000,000—currently account for 15 to 20% of all printing (excluding newspapers and periodicals). Though statistics are scarce, some in the trade say sales are up some 50% over the last 10 years. And secretary W. Floyd Maxwell of the Lithographers' National Assn. last week reported that 1938 sales were nearly up to last year's. Of offset's future in newspaper publishing, he perceived it would "very definitely make inroads, though there are obstacles everyone knows must be solved."

No. 1 obstacle is the lack of a composing typewriter which turns out work comparable to a linotype; but International Business Machines, Ralph C. Coxhead Corp., and others are pushing research in this direction. Up to now they've developed machines that will justify both sides of a column of type and can be operated easily by any typist, but offer only a limited selection of type faces and don't have the finish of linotype work. Paper seems to be another problem, though Webendorfer points out that offset printing has been done on newsprint, and that paper stocks only slightly more expensive turn out good results, in fact permit the use of pictures more finely screened than any now used by the average newspaper.

Offset lithography was hatched about 1885. Since 1925 immense strides have been made in improving inks, papers, and presses; these account, in part, for how far lithography has come in sales volume.

Offset newspaper production is mostly a scissors and paste procedure, works roughly like this: Type may be set on a linotype, though more often a justifying composing machine is used; if so, copy's set in rough form, then returned after editing for a final proof. This is pasted on ruled illustration boards—calculated for photographic reduction. Pictures are pasted into place and the layout then photographed; the pictures are shot separately through a screen and stripped into the first negative, which is next clamped tightly against a zinc plate and exposed to an arc light. Upon removal it's developed, washed, and rubbed with a gummy substance; usually it's then ready to be clamped onto the press.

So far, a score or more papers are using or experimenting with offset. Start of last month the Monmouth (Ill.) *Review-Atlas* blossomed with a 20-page tabloid section run on a Harris-Seybold-Potter press; meantime, the Trenton (N. J.) *Times* had put in a 4-color offset press built by famed R. Hoe & Co. (for a reported $90,000), used it for Sunday picture supplements, society sections, etc. Last year the Mt. Vernon *News* tried a demonstration issue on a Webendorfer press which *Photo Lithographer* hailed as "a pleasant foretaste of tomorrow's greatest phase of offset. . . ."

Other offset press makers are, naturally, eyeing the newspaper market, which includes some 10,200 weekly and semi-weekly papers. Many are now published on flat-bed presses. Few use pictures, and as American Type Founders start driving for sales, they'll talk about more and better pictures for small papers via offset, cite the success of picture magazines, the increased readership of dailies with rotogravure sections.

This is an abstract of an article appearing in the December 1 issue of Tide.

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Tomorrow a news story may break trebling demand for zinc in twenty-four hours. Edes with its huge 30-ton smelter—with capacity to supply all the photo-engraving zinc used in the United States—is prepared to meet such unusual demands. Processing of zinc, requiring highly skilled labor and elaborate equipment, cannot be hurried. Edes produces Superfine Quality Zinc—uniformly dependable at all times.

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Mid-West Photo-Engravers Supply Co..514 North Third St., St. Louis
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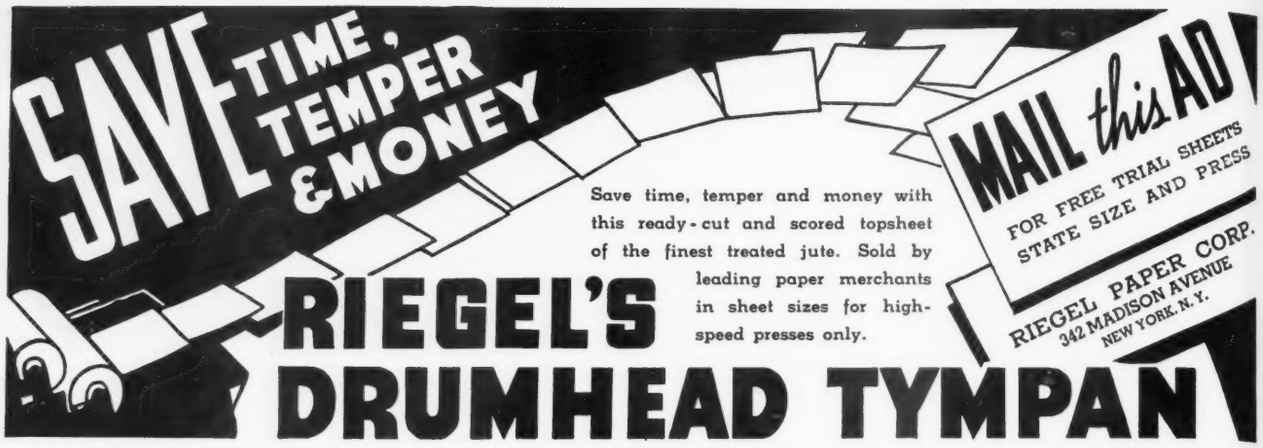
Selby Mohr.....883 Mission Street, San Francisco
Metzger Photo Supply Co.....1091 South Main Street, Akron
C. S. Illingworth.....49 Springville Ave., Buffalo, N. Y.
Thompson-Hayward Chemical Co.....909 2nd St. So., Minneapolis
Thompson-Hayward Chemical Co.....2228 Blake Street, Denver

PHOTO OF TEXAS SCHOOL HOUSE WHERE 600 WERE KILLED — ACME NEWSPICTURES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RIEGEL'S
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Equipment

(*Continued from Page 14*)

light" illumination is produced without the usual absorption necessary for correction of incandescent "daylight" units.

As an example of "daylight" lighting efficiency, the three 36-in. lamps consume with auxiliaries approximately 105 watts and provide 3240 lumens of 6500 degree Kelvin light. A 1000-watt (20,050 lumen) incandescent lamp corrected to 6500 degrees Kelvin would have an absorption of about 88% or a corrected lumen output of 2400 lumens—less by 840 lumens than the output of the "Daylight" Fluorescent Lamp Diffuser.

The low surface brightness of the lamps (in the order of 3 candles per square inch) and practical absence of radiant heat permit location of lighting units low over the working plane, and even in the direct line of vision without discomfort.

Since these lamps are essentially mercury arc sources, auxiliaries are necessary for operation on standard lighting lines and are built into these Benjamin units.

The 18 in. lamp size units operate on a line voltage of 110-120, 60 cycles a.c. 36 in. lamp size units can be supplied for either 110-120 volts, 60 cycles a.c. or 208-230 volts, 60 cycles a.c. as desired.

The reflector is of polished Alzak Aluminum with individual troughs provided for each of the three lamps. The reflector is covered by a gray porcelain enamel housing. Auxiliaries have ample leads for attaching to sockets and line leads. Units have a cast iron suspension fitting tapped ½ in. standard.

P-Double-E File No. 1GG.

Recent Linotype Installations

Linotypes have been installed recently by the Brookings (S. D.) *Register;* George Willens & Company, Detroit; *The Evening States* and *The Times-Picayune*, New Orleans; The *Lawrence News*, Lawrenceburg, Tenn.; Lang-Fuller Printing Company, Bloomington, Ill.; George A. Bolthoff, Inglewood, Calif.; Cortland (N. Y.) *Standard;* The B. M. Chandler Com

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Our patented process substitutes a steel ring in place of broken or cracked iron rim. We also true up warped and sprung disks in the process. Loans and exchanges arranged. Rebuilding charge is only $30.

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Radiant Bold Extra Condensed

A new typeface inspired by the skyscraper motif and christened Radiant Bold Extra Condensed is announced by the Ludlow Typograph Company as available in matrix form in sizes from 14 to 72 point.

RADIANT BOLD R
new trend in brill

Tall and slender, Radiant Bold Extra Condensed fits well into modern layouts for advertising and commercial printing, providing relief from the excessive use of monotone typefaces.

Radiant Bold Extra Condensed is shown here in the 36 point size. Specimen sheets showing the full size range can be obtained on request from the Ludlow Typograph Co.

New Home For Kelly Co.

A new $35,000 building is to be constructed for The E. J. Kelly Company, Kalamazoo, Mich. In planning the new building an abundance of light for matching and checking of colors, has been assured by "sawtooth" skylighting and continuous steel sash in the sides of the new plant. Architectural sash will be used for the offices. The new plant will be air-conditioned and the offices will be accoustically treated.

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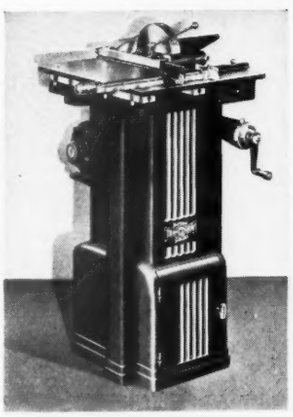

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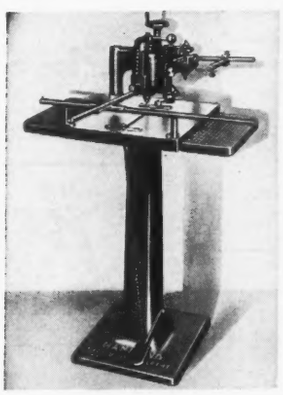

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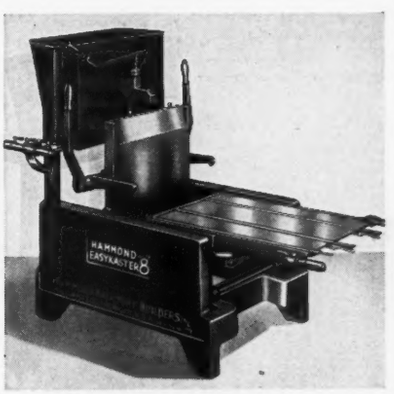
Both Radial and Stationary Head Types



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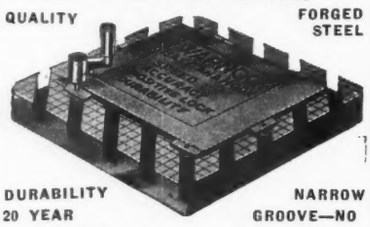
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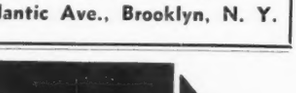
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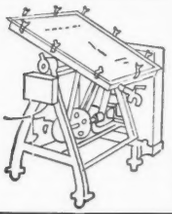
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Printing EQUIPMENT *Engineer*

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- Acraplate Vulcanizer, 58, June.
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- Champlain Unit-Type Gravure Press, 34, July.
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- Flamenol Cable for Control Circuits, 21, May.
- Flat Form-O-Scorch, 44, Feb.
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- Fratex Packing Material, 34, Aug.
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- Hammond Radial Router, 53, April.
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- Intertype Bulb Type Thermostat, 23, May.
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- Lamp, Signal, Intertype Distributor, 36, Oct.
- Larger Forced Convection Heater, 56, June.
- Lever Paper Cutter, 34, Aug.
- Light-Aliner, Hamilton, 55, Jan.
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- Micrometer Impression Adjustment, 40, Sept.
- Mechano Spray, 21, May.
- Milwaukee Roto-Lin Press, 22, May.
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Technical Information and Literature

FOR PRODUCTION AND MECHANICAL EXECUTIVES ONLY

For Your Convenience—Circle the numbers on the convenient postage-paid return card, supply your name, title and company address and mail—we do the rest. Manufacturer or supplier will send you information or literature about equipment or supplies advertised in this issue. This card saves you time and postage—Keep Informed.

COMPOSING ROOM

1 NEW TYPEFACE—First showing of Radiant Bold Extra Condensed is made by Ludlow on page 5. Radiant Medium also featured. "Both typefaces are sparkling and brilliant." Specimens sent on request.

2 PROOF PRESS—Vandercook Electric Proof Press No. 22—"the fastest press for proving galleys . . . easy to feed . . . galleys changed quickly . . . good inking and impression . . . perfect control at all times." Inside back cover. Circulars available on request. P-Double-E File No. 1V1.

3 COMPOSING MACHINES—Intertypes "are resourceful, efficient, economical . . . have automatic quadding and centering, simplified mixers with fingertip changes of type, six-mold disk," etc. See back cover. Investigate further. P-Double-E File No. 1G.

4 FEEDER—CUT MOUNTING TAPE—New streamline feeder featured by Eastern Newspaper Supply, see page 34. "Will not slip—no overflows—worm feed drive." "Plate-Tak," cut mounting tape—page 37. Will send samples. P-Double-E File Nos. 1J and 1A, 2G1.

5 SAW TRIMMERS—"8 new C&G Saw Trimmers installed in the Milwaukee *Journal* composing room." Other recent installations listed. Page 35. Write for C&G saw trimmer literature. P-Double-E File No. 1Z.

6 LINECASTING MACHINE—"Linotype slugs are accurate because they are cast accurately in Linotype Molds . . . and they are accurately trimmed with an exclusive wear-proof knife block." Further information on inside front cover. Literature mailed on request. P-Double-E File No. 1G.

7 SAW TRIMMER—"Glider Trim-O-Saw has greater operating ease, speed and accuracy—proof on request." See page 37. P-Double-E File No. 1Z.

8 MOTORS for line composing machines—Cushman Offset Motors "give years of excellent, dependable service . . . drive machines at maximum capacities with less operating cost." See page 28. Send for literature today.

9 TYPESETTING MACHINE—"Shift magazines in less than two seconds." Linograph 50 has two-in-one distributor, distributor clutch, universal ejector, standard mats, up to regular 24 pt. display. Write for catalogue. Page 25. P-Double-E File No. 1G.

10 CUT CEMENT AND KEYBOARD ROLLS—Zink Cut Cement featured on page 31 as "the most economical cut fastening means in existence." . . . "use it sparingly." Also featured Green Rubber Keyboard Rolls—"they retain their resiliency."

11 SERVICE AND PARTS for Linotypes and Intertypes. "Machine Rebuilding *vs.* New Machine Purchase." Page 29. "Wearing parts can be replaced. Reduce new equipment costs." Will send further details—Linotype Parts. P-Double-E File No. 1G.

12 NEWSPAPER BASES—"Cut time and labor costs . . . speed up the handling of unmounted electros, halftones and zincs for stereotyping—use Sta-Rite bases." Will gladly send more complete information with prices and sizes. See page 23. P-Double-E File No. 1U4.

13 PARTS FOR LINOTYPES—Catalogue available "shows many parts, accessories and repairs on which you can save money." Montgomery & Bacon. Linotype mold disks rebuilt . . . magazines for linotypes. See page 36. P-Double-E File No. 1G.

PRESSROOM

14 OFFSET PRESSES—"Harris speed, volume, accuracy, accessibility and ease of operation mean extra pressroom profits." See page 10. Will send complete details. P-Double-E File No. 5LL26, 2D24.

15 BLACK INKS for high speed presses. Sinclair Valentine's Champion "Halftone," "Super" and "Book." Champion Halftone—"a non scratch dense black—will not offset . . . can be backed up in two hours." See page 34.

16 NEW BOOKLET on "New Rotary Press, designed to place the commercial printer on a par with the large edition printer in producing quality work at high speeds."—See page 17. Write today. P-Double-E File No. 5LL32.

This card must be filled out completely in order to secure the literature or information you request. Please circle only bulletins you particularly want.

PRINTING EQUIPMENT ENGINEER December

Without obligation please have the manufacturers send me literature or information circled below. (These numbers correspond to numbers on descriptive paragraphs)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

PRINT YOUR NAME AND ADDRESS

NAME.....TITLE.....DEPT.....

FIRM NAME.....

17 PRESS BLANKETS & ROLLERS—Blankets "highly resilient, uniform in thickness, free from bolstering and ghosting and very durable." Rollers—"unaffected by inks, driers, temperature changes . . . forestall operating troubles." Pages 25 and 32. P-Double-E File Nos. 5L and 5NN.

18 TYMPAN PAPER—Riegel's Drumhead Tympan—"Finest treated jute . . . ready—cut and scored . . . saves time and money." Page 36. Sold in sheet sizes for high speed presses only. Trial sheets available—state size and press. P-Double-E File No. 5L.

19 NEW PRESS being built by A.T.F. "has features which those who entered the A.T.F. Press Contest said were necessary in the Ideal Press." Watch for it. See page 6. Write for further particulars.

20 INK SPECIMEN BOOK—Read I.P.I's. comments on World's Fair colors—annual essay contest—and research—page 33. Will send copy of new ink specimen book—contains popular colors proved on various stocks.

21 UNDERPACKING—"More Goodyear underpacking is used in the newspaper field . . . see how it will improve your print and reduce your costs." Page 8. Write for full data.

22 NEWSPAPER PRESSES—See the impressive list on page 21 of those who have recently purchased Duplex Presses and color equipment. Complete information on equipment furnished on request. P-Double-E File No. 5LL25.

23 ROLLERS—Sam'l Bingham's Son Mfg. Co.—"Skill and knowledge of printers' problems produced a rubber roller which fits the customer's needs." Rollers may be obtained at the sixteen Bingham factories. See page 7. P-Double-E File No. 5NN.

STEREOTYPE DEPARTMENT

24 CASTING EQUIPMENT — "The Wood vacuum casting principle . . . greatly reduces the necessity of replating." See page 19. Write for further information about Wood Vacuum Casting Equipment. P-Double-E File No. 2G7.

25 DRY MATS—Certified Mats featured on page 33. Ask how these mats will improve your stereotype plates. Send for samples today—specify type and size of equipment, shrinkage required and thickness of the mat. P-Double-E File No. 2G18.1.

26 FORMER—Stahl's "new Automatic Vacuum Shrinkage Attachment encourages maximum shrinkage—no extra operations—all done by the Autoformer. Entirely automatic—no clock watching, no guess work." See page 3. Will send particulars. P Double E File No. 2G12.

27 DRY MAT — "A Burgess Mat shrinks uniformly—it is a laboratory product." "Having difficulty with your mats? Ask the Burgess service man for assistance." See page 29. P-Double-E File No. 2G218.

28 ROUTER AND CASTING EQUIPMENT—Hammond Router and Easykaster "8" featured on page 37 for "greater operating ease, speed and accuracy." Will send proof of these features. P-Double-E File Nos. 2G31 and 2G7.

29 DRY MATS—Wood Mats "for better results." "They hold detail, tricky middletones, solid blacks, white whites . . . they shrink evenly, release easily and scorch quickly." Ask for sample lot. Please specify thickness and shrinkage desired—and indicate whether to be rolled or molded. See page 27. P-Double-E File No. 2G18.1.

30 GUMMED BACKING FELT—"Flecto" has successfully been used on all dry mats." See page 37 for specifications. Free samples on request. Eastern Newspaper Supply.

31 SCORCHER—PACKING FELT—MOLDING BLANKETS—Form-O-Scorch, shown on page 32, "has direct heat-thermostat temperature control—adjustable cover tension," and other features. See page 22 for specifications and prices on A.P.S. gummed packing felt and cork molding blankets. Write for samples.

32 MATRIX PRESS—Directomat is "Fast . . . permits instant and positive adjustment of moulding pressure . . . eliminates guesswork and make overs." See page 28. Write for further information. P-Double-E File No. 2G10.

MISCELLANEOUS

33 MOTORS for all printing equipment are featured on page 36 by Kimble. Complete information on the many uses of these motors will be sent to you on request.

34 ZINC—Atlantic Zinc Works "has developed a highly satisfactory metal formula—and designed a furnace for melting and casting which assures perfect blending." See Page 31. "For dependable plates investigate Atlantic Zinc." P-Double-E File No. 2E12.3.

35 ZINC—Edes zinc "uniformly dependable at all times . . . unlimited supplies always available." See page 35. Write for samples and more information about Edes service. P-Double-E File No. 2E12.3.

36 METAL QUALITY CONTROL—"Why not be sure of your metal's quality? Imperial's Plus Plan keeps it balanced by adding exact amounts of tin and antimony for dross." Page 27. Write for particulars. P-Double-E File Nos. 1B, 2G20.

Check off the literature or information you want on reverse side. Postpaid. No obligation.

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Cleveland, Ohio

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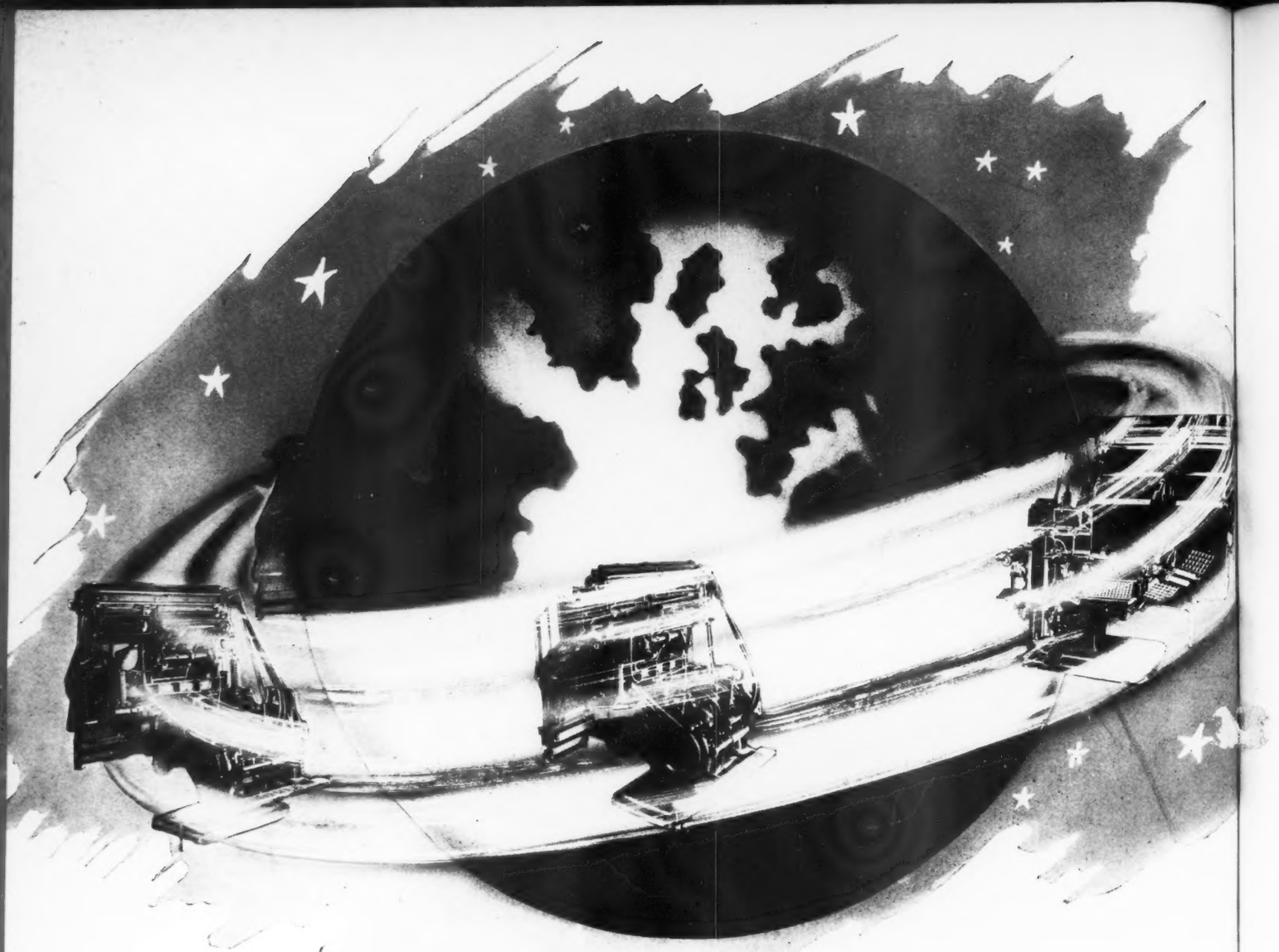

AROUND THE WORLD

Not so long ago a hero was welcomed home. New Yorkers turned out with characteristic enthusiasm . . . ticker tape showered from the skies . . . bands played . . . flags waved. Fitting tribute for the intrepid navigators of the air who had flown around the world to make aviation history. We applaud this highly inspirational deed as we present to you another round-the-world history maker—the INTERTYPE. Quietly, it has long since blazed its own particular trail around the world.

YOUR PROOF lies in the printshops, so there is where we go. In our own United States, every day, history is being made by the Intertype . . . Under deck, in printshops of the new, modern liners steaming from our harbors to the ports of the seven seas, history is being made by the Intertype . . . In sixty-eight other countries, history is being made by the Intertype. In fact, there isn't a corner of the world in which the Intertype has not made its welcomed appearance.

THERE MUST BE A REASON. The answer is a machine that is resourceful, efficient, economical to the *n*th degree . . . automatic quadding and centering, simplified mixers with finger-tip changes of type, six-mold disk, two-letter display matrices, streamlined design, and many other outstanding features.

THE APPROVAL that printers and publishers everywhere have given Intertype machines and matrices is based upon sound judgment. These products are producing profits—for the user—for his customer—for his customer's customer. No matter what your composition problem may be, there's an Intertype model that will definitely solve it. *Investigate* NOW.

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